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MBE/WBE DISPARITY STUDY
for
SAN FRANCISCO UNIFIED SCHOOL DISTRICT

Volume Two

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VOLUME TWO

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I. INTRODUCTION

The 1989 U.S. Supreme Court decision of *Richmond v. Croson* laid out specific criteria that state and local contracting agents, such as the San Francisco Unified School District (SFUSD), must meet in order to justify the existence of programs directed at increasing contracting with Minority-Owned Businesses (MBEs) and Woman-Owned Businesses (WBEs). Specifically, the Court requires that a race-conscious (and to a lesser extent a gender-conscious) program run by a state or local government agency be subject to a two-pronged test of strict scrutiny. First, the agency must show that a compelling public interest is served by the program -- specifically to remedy the effects of a pattern of past discrimination in contracting. Second, if enactment of a race-conscious program is justified by the evidence, the program must be narrowly tailored to serve this particular public interest.

The purpose of this report is to provide legal, narrative/ historical, and statistical analyses concerning discrimination based on race or gender in the awarding of contracts by SFUSD to outside contractors, vendors, and consultants. The analysis of both anecdotal and statistical data provides a foundation for the School District to decide whether there is a compelling public interest justifying the use of race-conscious and/or gender-conscious remedial programs by SFUSD.

The primary issues to be examined in this report include the evolving legal environment, utilization and availability of MBE/WBEs, statistical comparisons of utilization and availability, and an assessment of business practices and their impact on the employment of minorities. Findings from the study can be used by SFUSD to decide whether a race- or gender-conscious remedial program is warranted.

EVOLVING LEGAL ENVIRONMENT

There have been a number of federal court decisions since *Croson* that have created, and continue to create, an evolving legal environment in which disparity studies must be conducted. Chapter II describes in detail the legal environment and analytic framework within which this report has been prepared. It also lays out the parameters required of an MBE/WBE program to comply with California state law.

ANALYSIS OF BUSINESS PRACTICES

In addition to statistical analysis of utilization and availability, evidence on specific business practices that may have contributed to specific patterns of utilization of MBE/WBEs is also an important part of the study. Interview data have been used, along with review of past SFUSD records, to document probable causes for identified patterns of MBE/WBE participation.

STATISTICAL ANALYSIS

The study that has been undertaken for SFUSD analyzes availability, utilization, and disparity between utilization and availability in MBE/WBE participation in contracting with the School District. Contract data within the trade categories of construction, printing and publishing, equipment and supplies, general services, and professional services are analyzed.

Availability

The analysis of availability is a study of the number of businesses in the market place that can perform contracts for the School District within each of the relevant trade categories. Data on availability of MBE/WBEs are necessary for evaluating whether actual utilization levels reflect appropriate goals for participation in contracting by minorities and women. Before calculating the final availability measures, the geographical parameters of the market place were defined for each broad industrial category. The availability statistics collected were then used as a bench mark to assess the actual participation rates of MBE/WBEs on SFUSD contracts to determine whether there is a disparity between

the minority/women-owned business utilization and the availability of these firms within the relevant market area.

Because there is no single source of availability data that can be referenced, a variety of sources were searched and combined to create useful bench marks. In addition, data on the number of available majority vendors have been collected in order to provide a standard of comparison with similar statistics for MBE/WBEs.

Utilization

The analysis of utilization data examines the patterns and levels of participation by minority businesses in the different contracting categories for prime and subcontractors. Data on utilization of MBE/WBE contractors were collected from internal records maintained by the School District. To provide a sufficient basis for statistical and economic analysis, strong efforts were made to collect data on the ethnic and gender identity of bidders, geographic patterns of contracting, and dollar amounts awarded for SFUSD contracts. Data were collected on contracts awarded to both minority and majority vendors, thus providing a basis of comparison.

Statistical Disparity

The *Croson* decision sets out an approach for evaluating disparities in contracting experience by using a comparison between (a) the actual contract awards made to minority and woman-owned businesses within the relevant market and (b) the expected number of awards based on the minority group's proportionate share of firms willing and able to perform the contract work within the same geographic parameters. The consultant team has created an effective statistical framework for addressing this comparison.

FINDINGS

The results of the availability, utilization, disparity, and anecdotal analyses are presented as a basis for policy decisions on the part of SFUSD with regard to the establishment of appropriate remedial programs to provide equitable opportunities for MBEs and WBEs within SFUSD's relevant market area. Throughout

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the study, techniques and criteria are applied that meet the stringent requirements of the *Croson* decision in assessing the weight of the evidence.

OVERVIEW

This volume of SFUSD's MBE/WBE disparity study is organized as follows. Chapter II lays out the legal framework of the disparity analysis described in this report. In Chapter III, School District contracting policies and practices are described and examined for their impacts on the District's MBE/WBE participation objectives. The analysis of narrative/historical evidence concerning the experiences of MBE/WBEs in attempting to contract with SFUSD is presented in Chapter IV. This chapter serves to identify specific business practices that may lead to, or contribute to, discrimination in contracting with the School District.

Chapter V describes in detail the statistical framework used to assess the availability, utilization, and disparity in contracting experiences of MBE's and WBE's with public entities. In Chapters VI through IX, the results of statistical analyses are presented for contract categories of construction, construction-related professional services, purchasing, and other professional services.

A summary of findings is presented in Chapter X, in which the narrative/historical and statistical evidence is integrated and evaluated. These findings are intended to serve as the basis for a policy decision regarding the formulation and adoption of a remedial MBE/WBE contracting preference program for SFUSD.

II. LEGAL CONTEXT

The purpose of this study is to provide the statistical and anecdotal analysis mandated by the United States Supreme Court's opinion in City of Richmond v. J.A. Croson Co., 488 U.S. 469, 109 S.Ct. 706 (1989) ("Croson"). In the Croson decision, the Supreme Court set forth the constitutional standards that state and local agencies must meet in order to justify a race-conscious contracting program. Since the Croson decision was issued in January 1989, a number of lawsuits have challenged local minority preference programs under Croson's standards. As these cases progress through the district and appellate courts, the meaning and application of the Croson decision will continue to develop and evolve.

This chapter addresses this developing legal context. First, it provides an analysis of the Croson decision and its significance. Second, it surveys recent lower court decisions, which have applied Croson standards to existing MBE/WBE programs. Finally, it analyzes state laws and regulations that may affect MBE/WBE programs adopted by local agencies in California, including the San Francisco Unified School District.

THE CROSON DECISION

The Croson case involved a challenge by a local construction company to a Minority Business Utilization Plan adopted by the city council in Richmond, Virginia. The Plan required prime contractors who were awarded city construction contracts to be a minority business enterprise or to subcontract at least 30% of the total dollar amount of the contract to one or more minority business enterprises. The Plan defined a minority business enterprise as a business, located anywhere in the United States, which was at least 51% owned and controlled by black, Spanish-speaking, Oriental, Indian, Eskimo, or Aleut citizens. The Plan permitted waiver of the 30% set-aside requirement only in exceptional circumstances. City of Richmond v. J.A. Croson Co., 488 U.S. 469, 109 S.Ct. 706, 713 (1989).

The J.A. Croson Co. was the sole bidder on a city plumbing contract, but the company's bid did not meet the 30% MBE subcontracting requirement. The company sought a waiver of the requirement, based upon its unsuccessful efforts to locate an interested and available MBE subcontractor. When the City denied its request for a waiver and rejected the bid, Croson brought an action under 42 U.S.C § 1983, alleging that Richmond's Plan violated the Equal Protection Clause of the Fourteenth Amendment. The District Court upheld the Plan but, on appeal, the Fourth Circuit Court of Appeals struck down the Plan as unconstitutional. Croson, 109 S.Ct. at 715-717.

The United States Supreme Court ruled that the Richmond Plan violated the Equal Protection Clause because it was based upon an insufficient record of past discrimination against minorities in the award of public construction contracts in the Richmond area. The Court held that this record of past discrimination was the necessary predicate for the adoption of a race-conscious remedial program.

The Strict Scrutiny Standard

The cornerstone of the Supreme Court's Croson analysis is its holding that, where a state or local government adopts a program that expressly incorporates a race-conscious preference, the program must meet the demanding, two-pronged "strict scrutiny" test. Croson, 109 S.Ct. at 721. To satisfy the "strict scrutiny" test, a program must both serve a compelling state interest and be narrowly tailored to meet that interest. Id. at 723-29. The purpose of this test is to ensure that a racial classification is being used for legitimate remedial purposes and not for "illegitimate notions of racial inferiority or simple racial politics." Croson, 109 S.Ct. at 721. As further discussed below, Richmond's Plan failed to meet either prong of the strict scrutiny test.

Significantly, the Supreme Court's decision in Croson did not change its earlier ruling, in Fullilove v. Klutznick, 448 U.S. 448 (1980), regarding the standard that would apply to congressionally-mandated preference programs. The Fullilove case challenged a federal 10% minority/disadvantaged business

enterprise set-aside, included in the Public Works Act of 1977, a Congressional grant of $4 billion to state and local governments for public works projects. A divided Supreme Court applied a more deferential standard of review there -- that the program "serve important governmental objectives [and be] substantially related to achievement of those objectives."[1] Fullilove, at 519.

Thus, although race-conscious programs adopted by state and local governments must satisfy the strict scrutiny test to pass muster under the Fourteenth Amendment, race-conscious programs implemented by state and local entities to satisfy a congressional mandate will be given greater deference.[2]

Demonstrating that a Program Serves a "Compelling State Interest"

The Supreme Court recognized in Croson that state and local governments have a legitimate interest in eradicating the present effects of past discrimination in public contracting. The Court found, however, that the factual evidence of past discrimination relied upon by the Richmond city council was

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[1] The Croson decision did not address the question of what standard of review is applied to programs which create a preference for women-owned businesses. In a decision made prior to Croson, the Ninth Circuit Court of Appeals ruled that gender-based preferences are subjected to a lesser degree of scrutiny than are racial classifications. Associated General Contractors v. City and County of San Francisco, 813 F.2d 922, 941-942 (9th Cir. 1987). The court there upheld San Francisco's WBE program as "substantially related to the city's important goal of compensating women for the disparate treatment they have suffered in the marketplace." AGC, 813 F.2d at 942 (emphasis in original). See Coral Construction v. King County, 729 F.Supp. 734, 736 (W.D.Wash. 1989), appeal pending, 9th Cir. Doc. No. 90-35066

[2] This analysis appears to be supported by the Supreme Court's recent decision in Metro Broadcasting, Inc. v FCC, 110 S.Ct. 2997, reh den., 111 S.Ct. 15 (1990). The case involved a challenge to Federal Communications Commission (FCC) policies, which accorded preferences to MBEs in connection with comparative licensing and "distress sales." The majority opinion adopted the intermediate level of scrutiny, concluding that the FCC policies "'serve important governmental objectives [by means that] are substantially related to achievement of those objectives.'" Metro Broadcasting, 110 S.G. at 3008 quoting Fullilove v. Klutznick, 448 U.S. 448,473,100 S.Ct. 2758, 2772.

insufficient. Its analysis provides a guide to the types of evidence that are necessary to meet the first prong of the strict scrutiny test.

The Court held that the governmental entity cannot rely on evidence of nationwide discrimination in the construction industry. Croson, 109 S.Ct. at 724. Thus, the Court criticized Richmond's reliance on Congressional findings of discrimination throughout the nation. Instead, the evidence must establish that there has been past discrimination in connection with public contracting within the local jurisdiction. This can be shown by demonstrating either that the governmental entity itself discriminated in awarding public contracts or that the local industry has prevented meaningful MBE participation. As to the latter, the Court affirmed that even if a local entity is only a "passive participant" in industry discrimination, it may take affirmative steps to remedy this system of racial exclusion. Id. at 720.

The Court reaffirmed that statistical evidence regarding the utilization of minority businesses by the public entity will serve as important proof of past discrimination. Nevertheless, the Court rejected Richmond's reliance on statistical evidence that compared the percentage of public contracts awarded to minority contractors with the percentage of minorities in the Richmond area population. The Court held that the local entity should instead compare the percentage of public contracts awarded to minority contractors to the number of qualified and interested MBEs in the local area to determine whether there was an underutilization of MBEs. Croson, 109 S.Ct. at 725.[3]

The Court also confirmed that anecdotal evidence of individual discriminatory acts will lend support to a finding of discrimination. Croson, 109 S.Ct. at 729. The Court would not accept, however, "generalized assertions" and conclusory statements by members of the Richmond city council that discrimination in the construction industry exists locally and nationwide. Id.

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[3] Similarly, the Court indicated that evidence of low minority membership in local trade organizations was relevant but only when compared to the number of local MBEs eligible for membership. Croson, 109 S.Ct. at 726.

at 725. The Court did not provide guidance as to the nature of acceptable anecdotal evidence.

Demonstrating that a Program is "Narrowly Tailored" to Redress Past Discrimination

The Croson Court held that, to meet the second prong of the strict scrutiny test, the local governmental entity must narrowly tailor its program to redress only the forms of discrimination whose existence is supported by sufficient evidence.

First, the program must provide relief only to those groups that have suffered past discrimination. The Croson Court criticized the Richmond Plan because, by its terms, it included minority groups (such as Eskimos and Aleuts) for which there was no evidence of past discrimination in the local construction industry. Croson, 109 S.Ct. at 727-728. The Plan was also fatally overinclusive in that the MBE preference applied to MBEs from "anywhere in the country." Id. at 728.

Second, the program must match the remedy to the extent of the harm and be sufficiently flexible to ensure that the MBE preference is appropriate for a particular contract. The Court found that Richmond's 30% quota was arbitrary in that the numerical quota bore no relation to the extent of past harm. The Court further noted that there was no need for a rigid quota since the program required case-by-case review of bids and waiver requests. Croson, 109 S.Ct. at 728-29.

Finally, the public entity should consider the efficacy of race-neutral measures before adopting racial preferences. The Supreme Court noted that Richmond failed to consider "[s]implification of bidding procedures, relaxation of bonding requirements, and training and financial aid for disadvantaged entrepreneurs of all races." Id. at 729.

Summary of Key Points in Croson

- If a state or local government adopts a race-conscious contracting program, the program must satisfy the rigorous requirements of strict scrutiny. Under this test, a program must serve a compelling state interest and be narrowly tailored to this interest. A less demanding standard of review will be applied to federally-mandated race-conscious preferences.
- To meet the requirement of a compelling state interest, a state or local government must rely on evidence of past discrimination within its jurisdiction. Past discrimination can be shown through statistical proof of the underutilization of qualified, local MBEs as well as through anecdotal evidence of discrimination by the governmental entity or the local industry.
- To meet the requirement of narrow tailoring, a local entity must fashion a program that redresses only the forms of discrimination for which there is sufficient evidence. The program should not be rigid or arbitrary. The entity should also consider whether race-neutral alternatives would redress the past harm.

COURT DECISIONS SINCE CROSON

While the Supreme Court made it clear in Croson why the Richmond Plan failed to meet constitutional standards, its decision leaves much uncertainty about the kind of program that will satisfy the demands of equal protection. While legal scholars will continue to debate this question, the real task of applying the Croson decision falls to judges in the lower courts.

While few written lower court decisions have yet interpreted Croson, some tentative observations can be made. With one important exception,[4] minority

[4] The Eleventh Circuit upheld the Hillsborough County, Florida program in Cone Corp. v. Hillsborough County, 908 F.2d 908 (11th Cir. 1990). The United States Supreme Court recently refused to hear an appeal of this decision thereby allowing the lower court decision to stand. Cone Corp. v. Hillsborough County, 908 F.2d 908 cert. denied 59

preference programs enacted by state or local governments before the Supreme Court issued its Croson decision have generally been found not to meet the strict scrutiny standards of Croson. This result is hardly surprising since local governmental bodies, which enacted these programs, could not have anticipated the requirements that the Supreme Court would subsequently impose. In contrast, programs enacted since Croson, which are supported by strong evidence of statistical and/or anecdotal proof of past discrimination, have survived preliminary legal challenges.

In addition, the lower courts seem to be following the distinction, suggested by Croson, between MBE programs initiated by state and local governments and MBE programs adopted by localities as a result of a federal Congressional mandate, i.e. in connection with the receipt of federal funds. As to the latter, the courts have applied the more deferential standard of review articulated in Fullilove.

The following is a summary of the principal legal decisions to date applying Croson.

Decisions Regarding Programs Enacted Before the Croson Decision

As noted above, the Eleventh Circuit Court of Appeals ruled that an MBE program adopted in Hillsborough County, Florida prior to the Croson decision could meet the constitutional requirements of Croson. Cone Corp. v. Hillsborough County, 908 F.2d 908 (11th Cir. 1990), cert. denied 59 U.S.L.W. 3391 (1990). This case is very significant because it is the only post-Croson case in which a federal appeals court has yet decided the constitutionality of an MBE program.[5] Moreover, the Supreme Court has refused to review the Eleventh Circuit's decision

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U.S.L.W. 3391 (1990). The Hillsborough County case is further discussed below.

[5] In Northeastern Florida Chapter of the AGC v. City of Jacksonville, 896 F.2d 1283 (11th Cir. 1990), the eleventh Circuit reversed a preliminary injunction barring the enforcement of an MBE preference program and remanded for full hearing of the merits.

so it remains good law on the application of Croson at least until the Supreme Court decides to revisit the issue.

The Hillsborough County law was adopted in 1988 after a voluntary program, which had been in effect since 1978, had proven ineffective. The district court in Florida struck down the program as unconstitutional under the requirements of Croson. The Eleventh Circuit reversed the district court, ruling that the program met constitutional muster. The case has now been sent back to the lower court for final resolution.

The Eleventh Circuit panel emphasized the significant differences between the evidence of past discrimination which supported the Hillsborough County regulation and the evidence relied on to support the Richmond plan in Croson. The Hillsborough County program was enacted "as a result of statistics, tabulated during the six years that the [voluntary] MBE program was in effect." Cone Corp., 908 F.2d at 914. These statistics included the percentage of contracts and contract dollars awarded to minority businesses compared to the number of available MBE contractors during a three-year period. The Court found that the statistical disparities constituted "a prima facie case of discrimination indicating that the racial classification in the County plan was necessary." Id. at 916. [5] The Court also relied on evidence from three county commissioners that they had received "a number of complaints alleging discrimination." Id. at 916. These allegations concerned primarily the business practices of prime contractors and suppliers towards MBE subcontractors.

The Court also found that the Hillsborough County plan was narrowly tailored to remedy past discrimination. It noted that the County had first attempted a voluntary plan, before adopting a mandatory program. The mandatory program also incorporated all of the "race-neutral measures suggested in Croson", which lent to its flexibility. Id. at 916 and note 11. The Court also highlighted that the program's 25% goal was flexible and did not apply to all

[5] The Court discounted statistics for an earlier time period of the percentage of County dollars going to various minority groups because there was no data about the number of available MBEs with which to compare those numbers. Cone Corp., 908 F.2d at note 7.

contracts. In fact, the County's program set an individual goal for each contract, based on the number of available and qualified MBE subcontractors. The goal was also broken down by minority group and set a separate sub-target for disadvantaged and non-disadvantaged MBEs.

In contrast to the Hillsborough County regulation, other pre-Croson programs have not fared nearly as well in the courts because they lacked the factual proof of past discrimination required by Croson. So, for example, in Contractors Ass'n v. City of Philadelphia, 735 F. Supp. 1274 (E.D.Pa. 1990), the district court invalidated the City of Philadelphia's 15% minority set-aside program, which was based primarily on "general evidence of discrimination." A similar program maintained by the Philadelphia school board also failed to meet the Croson standards. Main Line Paving Co., v. Board of Education, 725 F.Supp. 1349 (E.D.Pa. 1989); Main Line Paving Co., v. Board of Education, 18 Phila. 463 (Ct. Common Pleas 1989), modified, 20 Phila. 1 (Ct. Common Pleas 1989).[7] The Georgia Supreme Court invalidated Atlanta's MBE preference program because it, too, lacked sufficient factual evidence of past discrimination. American Subcontractors Ass'n v. Atlanta, 259 Ga. 14 376 S.E. 2d 662 (1989).

In a series of three opinions, the district court in Wisconsin upheld some portions of Wisconsin's disadvantaged business program and invalidated others as inconsistent with Croson. Milwaukee County Pavers Ass'n v. Fiedler, 707 F.Supp. 1016 (W.D.Wis. 1989); Milwaukee County Pavers Ass'n v. Fiedler, 710 F.Supp. 1532 (W.D.Wis. 1989); Milwaukee County Pavers Ass'n v. Fiedler, 731 F.Supp. 1395 (W.D.Wis. 1990). The court concluded that those portions of the program that were required by the federal government under the Surface Transportation Act were constitutional, applying the Fullilove standards. However, the court held that, to the extent that the program exceeded federal requirements, it was subject to review under Croson. Applying Croson to these

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[7] See also Ohio Contractors Ass'n v. City of Columbus, 733 F.Supp. 1156 (E.D. Ohio 1990), in which the district court entered a permanent injunction deleting provisions of a city contract containing race and gender based affirmative action contracting requirements. The court found that the provisions were "an example of the use of minority political power not to remedy past discrimination but to negotiate a 'piece of the action' for its members." Id. at 1162.

non-federal program components, the court found that the program lacked the necessary factual predicate. A similar result was reached in Harrison and Burrowes Bridge Constructors v. Cuomo, 743 F.Supp. 977 (N.D.N.Y. 1990).

Decisions Regarding Programs Enacted or Modified Since the Croson Decision

There have been two decisions to date upholding the constitutionality of MBE/WBE programs adopted post-Croson. These cases, both within the jurisdiction of the Ninth Circuit Court of Appeals (which includes San Francisco), are important because these precedents will directly effect any program adopted by the San Francisco Unified School District. As both are presently the subject of pending appeals to the Ninth Circuit, their conclusions, while significant, are nonetheless subject to further refinement or even reversal.

King County, Washington

The first case, Coral Construction Co. v. King County, 729 F.Supp. 734 (W.D.Wash. 1989), challenged an ordinance adopted by the King County Council shortly after Croson, which amended its existing MBE/WBE set-aside program. The modified program included two alternative methods for enhancing participation of minority- and women-owned businesses. First, the ordinance provided a "percentage preference," meaning that a contractor whose bid was within five percent of the lowest responsive bidder would be given the bid if the contractor was an MBE/WBE or would use MBE/WBEs on the project. Second, the ordinance provided that, for contracts over $10,000, a contractor would be required to use MBE/WBEs for a certain percentage of the contract. The percentage was established on a contract-by-contract basis, tied to the number of available MBE/WBE contractors and subject to adjustment or waiver.

The district court found that the program met the strict scrutiny test because it was based upon an adequate factual record of past discrimination within the local industry.[3] The court noted that the Council relied on "several

[3] The court evaluated the race-conscious preferences based upon the strict scrutiny standard set forth in Croson. In contrast, the court found that the gender preferences need only meet the standard of "mid-level review." (continued...)

dozen" written and oral descriptions of specific examples of discrimination in the King County construction industry.[9] The court rejected the argument that the county must rely solely upon official discrimination by the county, concluding that Croson permitted the county to take affirmative steps when it became a "passive participant" in industry discrimination.

The court also found that the King County ordinance was narrowly tailored to remedy past discrimination. In contrast to the Richmond Plan, the King County plan was flexible and included only those groups that had been victims of past discrimination. The Council had also considered the race-neutral alternatives suggested by the Supreme Court, but rejected them because they violated state law. The court dismissed the argument that the Council had failed to consider all possible race-neutral alternatives. "Croson does not compel the county to consider every imaginable race-neutral alternative, nor to try alternatives that would be plainly ineffective." Id. at 739. Plaintiffs appealed and the Ninth Circuit heard oral arguments in King County in the fall of 1990. A decision is expected within the next three to six months.

City and County of San Francisco

Following Croson, the Board of Supervisors for the City and County of San Francisco adopted the Minority/Women/Local Business Utilization Ordinance in May 1989 ("the Ordinance"). The Ordinance creates bid preferences for qualifying prime contractors: a five percent preference for local businesses and a ten percent preference for local MBEs or WBEs. The Ordinance also provides a bid preference for bidders who have formed joint ventures with a local MBE/WBE: a five percent preference if the participation of the local MBE/WBE is between 35 and 51%, and ten percent if the participation is over 50%. To qualify for a

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[9](...continued)
Under this standard, "WBE programs must demonstrate 'exceedingly persuasive justification'" Coral Construction, 729 F.Supp. at 736, quoting Associated Gen. Contractors v. City and County of San Francisco, 813 F.2d 922, 939-940 (9th Cir. 1987), petition for mandamus dismissed, 110 S.Ct. 296, 58 U.S.L.W. 3271 (1989).

[9] Although the Council had also commissioned a statistical analysis of past contracting and utilization of minority contractors, the district court did not expressly rely on its findings.

preference, an MBE must be "economically disadvantaged." The Ordinance does not include any specific set-aside of city contract dollars for minority- or women-owned businesses.

The Associated General Contractors of California filed a lawsuit in December 1989 challenging the constitutionality of the Ordinance.[9] The AGC sought a preliminary injunction to prevent the City from enforcing the Ordinance until the lawsuit was resolved. The district court issued an opinion in October 1990, refusing to grant such a preliminary injunction. The court concluded that the plaintiffs were not likely to succeed in proving that the Ordinance violated the requirements of equal protection.

The district court held that San Francisco met the requirement of demonstrating a compelling interest, in that it had "identified discrimination against MBEs in San Francisco by both the city and private contractors." AGCC v. City and County of San Francisco, 748 F.Supp. 1443, 1450 (N.D. Cal 1990). The court found particularly significant the statistical analysis prepared by BPA Economics, Inc., which demonstrated statistically significant disparities between the number of MBEs willing and able to perform and those actually given city contracts. These disparities provided "a reliable basis for inferring discriminatory conduct by the city of San Francisco against Asian, Black, and Hispanic construction companies seeking prime contracts with the city." Id. at 1451. The court also pointed to the substantial written and oral testimony given in public hearings by MBEs who complained of discriminatory practices. Examples included harassment by city contract officials as well as private sector exclusion.

The court further concluded that the Ordinance was narrowly tailored to accomplish the City's goal of remedying past discrimination against minority businesses. The court identified the following features of the Ordinance, which demonstrated its "tailoring":

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[9] The AGC had brought a legal challenge against San Francisco's 1984 Ordinance, establishing minority, women and local business set-asides. AGCC v. City and County of San Francisco, 813 F.2d 922, 928-944 (9th Cir. 1987) petition for mandamus dismissed, 110 S.Ct. 296 (1989).

- The five percent bidding preference was not a flat quota or set-aside. Non-MBEs could take advantage of the preference by means of a joint venture.
- The five percent bidding preference was tied to actual MBE availability and was, therefore, not arbitrary.
- The preference applied only to local MBEs which were economically disadvantaged and for which there was evidence of past discrimination. It did not, therefore, suffer from over-inclusiveness as the Richmond Plan did in Croson.
- The preference applied only to the types of contracts for which evidence of discrimination was found.
- The Ordinance was limited in duration and permitted a waiver of the preferences in certain circumstances.
- The court noted that the form of the remedy corresponded with the identified discrimination. Since the City's procurement practices created a "competitive disadvantage" for MBEs, the bid preference "provides a modest 'competitive plus' to offset this disadvantage and nothing more." Id. at 1453.
- The Ordinance had no undue burden on non-MBE contractors. During the first six months of the Ordinance, 92.7 percent of all prime contract dollars went to non-MBEs. No AGC member contended that it was denied a contract because of the MBE preference.

The district court rejected the AGC's argument that race-neutral alternatives were not properly evaluated. The court pointed out that previous efforts by the City's Human Rights Commission to intervene and resolve complaints of discrimination had not remedied the City's discriminatory procurement practices. The City had also considered setting up a revolving fund and/or relaxing bonding requirements to assist new businesses. These alternatives had been rejected, however, because of budgetary constraints and opposition from the local business community.

The AGC has noticed an appeal to the Ninth Circuit from the district court's order. A decision cannot be expected for six to nine months.

The lower courts will continue to wrestle with the subtleties of Croson. Decisions from the Ninth Circuit in the King County and San Francisco cases will provide important guidance on the application of Croson.

ANALYSIS OF RELEVANT STATE LAW PROVISIONS

The San Francisco Unified School District is a political subdivision of the State of California. Associated General Contractors v. San Francisco Unified School District, 616 F.2d 1381, 1384 n.2 (1980). As such, its contracting procedures are bound by the provisions of Public Contract Code §§ 20110 - 20118.4. In addition, its authority is limited to the adoption of programs which are not in conflict with the purposes for which school districts are established and "not in conflict with or inconsistent with, or preempted by, any law." Education Code § 35160.

Lowest Responsible Bidder Requirement and Public Contract Code § 2000

Section 20111(a) provides that, for service contracts in excess of $15,000 and for materials contracts in excess of $21,000, the school board will give the contract to "the lowest responsible bidder who shall give security as the board requires, or reject all bids." (Emphasis added.)

The courts have previously interpreted the term "lowest responsible bidder" in this and similar statutory provisions to mean "qualified to do the particular work under consideration." See MGM Construction Co. v. Alameda County, 615 F.Supp. 149 (N.D.Cal 1985); Associated General Contractors v. San Francisco Unified School District, 616 F.2d 1381 (9th Cir. 1980); Inglewood-Los Angeles County Civic Center Authority v. Superior Court, 7 Cal. 3d 861 (1972). On this basis, the federal court ruled that the former San Francisco Unified School District set-aside program in effect in the late seventies was invalid. The School District's program had declared that a bidder who did not comply with the affirmative action program goals was not "responsible." The court ruled that,

in evaluating "responsible" bidders, the School District could only look to the skills and financial ability of the bidder."

In response to these interpretations by the courts, the state legislature passed Public Contract Code § 2000. Section 2000 permits a local agency to award a contract to the lowest responsible bidder who also meets either MBE goals or preferences or demonstrates a good faith effort to comply with the agency's program. The statute defines ten steps which will create a rebuttable presumption that good faith efforts have been made. The statute was amended in 1988 specifically to include school districts.[12] The Legislature also amended Section 20111(a), the contract provision applicable to the school districts, to incorporate Public Contract Code § 2000.

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[11] On March 22, 1977, the San Francisco School Board adopted an MBE program, known as the Affirmative Action Policy Relating to Participation of Minority Contractors in School Construction Programs. The program required that, for construction projects over $100,000, general contractors must employ "non-white" owned businesses for 25% of the contract dollars. A general contractor who submitted a bid which did not comply would not be considered a "responsible" bidder, as defined by Education Code § 15951. The contractor could nonetheless receive the bid if the Board determined that the contractor had taken "every possible measure to comply," or "that it is not practicable in the best interests of the District to require compliance in the specific case." In adopting the program, the Board made findings about past discrimination in the local construction industry and the availability of willing and able MBEs. The Board found that a similar program adopted in 1975 for all contracts had increased minority participation from 4.99% (in the prior ten years) to 33.4% of all contract dollars.

The Associated General Contractors challenged the policy and the federal district court invalidated the program on the grounds that the School Board did not have the authority under state law to adopt it. The court reasoned that the Board's power was conferred by state law and was expressly limited by statute to matters directly related to the operation of schools. The court found that Education Code § 15951, which required that school boards award contracts to the "lowest responsible bidder," was intended solely to protect the public against corrupt or wasteful expenditure of school funds. The District Court ruled that the School Board did not have the authority to reinterpret "responsible" to mean compliance with the social policy embodied in the Affirmative Action Plan. The Ninth Circuit affirmed the district court's interpretation of Education Code § 39640

[12] The full text of Public Contract § 2000 is included as an Appendix to this chapter.

To date, there have been no published cases interpreting or applying Public Contract Code § 2000.

Security

Bids covered by Public Contract Code § 20111 must be accompanied by security in the form of cash, a certified check, a cashiers' check or a bidder's bond.

State MBE/WBE Requirements

The State of California has recently proposed regulations that would require school districts, which receive funds under the Leroy F. Greene State School Building Lease Purchase Law, to comply with certain MBE/WBE requirements. California Code of Regulations, Title 2, Subgroup 11, Article 2.5, Sections 1865.12-1865.20. These regulations, as proposed, require that bidders satisfy 15% MBE goal and 5% WBE goal or satisfy good faith effort requirements.

Because the San Francisco Unified School District receives such monies, it would be required to implement these regulations. It is presently estimated by state officials that these regulations will be in effect in spring 1991.

Summary of State Law Requirements

The San Francisco Unified School District must comply with all provisions of Public Contract Code §§ 20110 - 20118.4. Although Public Contract Code § 20111 requires that the contracts be given to the lowest responsible bidder, compliance with an MBE/WBE requirement may be considered if the local entity has adopted a program pursuant to Public Contract Code § 2000.

The San Francisco Unified School District will be required to comply with state MBE/WBE regulations in connection with monies received under the Leroy F. Greene State School Building Lease Purchase Law when they become effective.

CONCLUSION

The San Francisco Unified School District may adopt a minority or women's business preference program so long as there exists a factual record of past discrimination against minorities or women in public contracting.

§ 2000.

(a) Notwithstanding any other provision of law requiring a local agency to award contracts to the lowest responsible bidder, any local agency may require that a contract be awarded to the lowest responsible bidder who also does either of the following:

(1) Meets goals and requirements established by the local agency relating to participation in the contract by minority business enterprises and women business enterprises. If the bidder does not meet the goals and requirements established by the local agency for that participation, the local agency shall evaluate the good faith effort of the bidder to comply with those goals and requirements as provided in paragraph (2).

(2) Makes a good faith effort, in accordance with the criteria established pursuant to subdivision (b), prior to the time bids are opened, to comply with the goals and requirements established by the local agency relating to participation in the contract by minority or women business enterprises.

(b) (1) The bidder attended any presolicitation or prebid meetings that were scheduled by the local agency to inform all bidders of the minority and women business enterprise program requirements for the project for which the contract will be awarded. A local agency may waive this requirement if it determines that the bidder is informed as to those program requirements.

(2) The bidder identified and selected specific items of the project for which the contract will be awarded to be performed by minority or women business enterprises to provide an opportunity for participation by those enterprises.

(3) The bidder advertised, not less than 10 calendar days before the date the bids are opened, in one or more daily or weekly newspapers, trade association publications, minority or trade oriented publications, trade journals, or other media, specified by the local agency for minority or women business enterprises that are interested in participating in the project. This paragraph applies only if the local agency gave public notice of the project not less than 15 calendar days prior to the date the bids are opened.

(4) The bidder provided written notice of his or her interest in bidding on the contract to the number of minority or women business enterprises required to be notified by the project specifications not less than 10 calendar days prior to the opening of bids. To the extent possible, the local agency shall make available to the bidder not less than 15 calendar days prior to the date the bids are opened a list or a source of lists of enterprises which are certified by the local agency as minority or women business enterprises. If the local agency does not provide that list or source of lists to the bidder, the bidder may utilize the list of certified minority or women business enterprises prepared by the Department of Transportation pursuant to Section 14030.5 of the Government Code for this purpose.

(5) The bidder followed up initial solicitations of interest by contacting the enterprises to determine with certainty whether the enterprises were interested in performing specific items of the project.

(6) The bidder provided interested minority and women business enterprises with information about the plans, specifications, and requirements for the selected subcontracting or material supply work.

(7) The bidder requested assistance from minority and women community organizations; minority and women contractor groups; local, state, or federal minority and women business assistance offices; or other organizations that provide assistance in the recruitment and placement of minority or women business enterprises, if any are available.

(8) The bidder negotiated in good faith with the minority or women business enterprises and did not unjustifiably reject as unsatisfactory bids prepared by any minority or women business enterprises, as determined by the local agency.

(9) Where applicable, the bidder advised and made efforts to assist interested minority and women business enterprises in obtaining bonds, lines of credit, or insurance required by the local agency or contractor.

(10) The bidder's efforts to obtain minority and women business enterprise participation could reasonably be expected by the local agency to produce a level of participation sufficient to meet the goals and requirements of the local agency.

(c) The performance by a bidder of all of the criteria specified in subdivision (b) shall create a rebuttable presumption, affecting the burden of producing evidence, that a bidder has made a good faith effort to comply with the goals and requirements relating to participation by minority and women business enterprises established pursuant to subdivision (a).

(d) "Local agency," as used in this section, means a county or city whether general law or chartered, city and county, school district, or other district. "District," as used in this section, means an agency of the state, formed pursuant to general law or special act, for the local performance of governmental or proprietary functions within limited boundaries.

(e) "Minority or women business enterprise," as used in this section, means a business enterprise that meets both of the following criteria:

(1) A business that is at least 51 percent owned by one or more minority persons or women or, in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons or women.

(2) A business whose management and daily business operations are controlled by one or more minority persons or women.

(f) "Minority person," for purposes of this section, means Black Americans, Hispanic Americans, Native Americans (including American Indians, Eskimos, Aleuts, and Native Hawaiians), Asian-Pacific Americans (including persons whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, and Taiwan), or any other group of natural persons identified as minorities in the project specifications by the local agency.

(g) This section does not apply to any of the following:

(1) Any contract, funded in whole or in part by the federal government, to the extent of any conflict between the requirements imposed by this section and any requirements imposed by the federal government relating to participation in a contract by a minority or women business enterprise as a condition of receipt of the federal funds.

(2) The San Francisco Bay Area Rapid Transit District, the Los Angeles County Transportation Commission, or any other local agency that has authority to facilitate the participation of minority or women business enterprises substantially similar to the authority granted to the San Francisco Bay Area Rapid Transit District pursuant to Section 20229 of this code or the Los Angeles County Transportation Commission pursuant to Section 130239 of the Public Utilities Code.

(most of those, more than once). More than a third have contracted with SFUSD (again, most of those, more than once).

As noted in the Methodology section, the sample is biased in the direction of successful firms. The firms who have been discouraged from trying to enter the SFUSD market, or have gone out of business, had no opportunity to be included in this study.

The MBE/WBE Experience with Discrimination and Stereotyping

The results of the narrative/historical study show that minority and women contractors do experience discrimination in contracting with the SFUSD. There is a widespread perception among MBE/WBEs that the school district engages in discriminatory practices with respect to minorities and women and that these practices keep them excluded from contracts with the school district. Furthermore, MBE/WBEs experience discrimination by majority prime contractors working for the school district.

The anecdotal interviews suggest that most of the discrimination MBE/WBEs experience in contracting with SFUSD occurs in trying to gain entry into the contracts market. Respondents complained about the school district's "good old boys" network which has excluded MBE/WBE's and has placed them at a competitive disadvantage with respect to SFUSD contracts.

There are several ways in which women and minority contractors describe their exclusion from participation in contracting. At the most basic level, they feel that they experience more difficulty soliciting bid and contracting information from the school district than their white male counterparts. Of those MBE/WBEs surveyed, most had made a considerable effort to obtain information and gain entry into the SFUSD contracts market including: calling for information, requesting that their names be included on SFUSD mailing lists, meeting with school district staff, and attending seminars and minority procurement fairs. Many MBE/WBEs are discouraged after making repeated efforts to obtain information from the school district without success, and attribute the problem to discrimination.

This appears to be an issue that crosses gender and minority groups -- non-minority women, Hispanics, Black, and Asian business-owners all voice this complaint. The following comment typifies the MBE/WBE experience with SFUSD:

> I am very interested in working for the school district but never get to hear about contracts when they are up for bid. Four years ago, I attended a bidders meeting. I have left my name and requested to receive regular announcements about contracts for bids. But I have never heard from the school district. This year, a group of us minority contractors held a meeting with the school district to find out why we do not receive information about contracts. Up to now I have not heard anything and it was almost 4-5 months ago. I feel there must be special people who get the bid information. They think minorities are not qualified to do the work well. (Hispanic Plumbing Contractor)

The bid process itself is also seen as an obstacle to women and minority business owners' participation in contracting. It is commonly held among the MBE/WBEs surveyed that despite the appearance of open bidding, school district contractors are predetermined, or "wired," with preference given to white male contractors who have an established track record with the school district. These practices are considered by many MBE/WBEs to be unfair and discriminatory. Their remarks reflect a general sense of mistrust toward the school district. As an Asian Sheet Metal Contractor said:

> The school has its own sheet metal force. I suspect they make us go through a pricing exercise where they have us bid but know who they'll give the job to.

According to an Hispanic Contractor:

> I have attended meetings, sent in bids since 1959, but never get any contracts from the school district. This idea of bidding is only political front, in reality they have their favorite contractors who get jobs and are hand-picked. It annoys me very much. I am angry.

A Woman Painting Contractor adds:

> when there's a regular job in a timely fashion. I'm not called. I'm called on the least desirable jobs with the very short time frames. When there's a job that an 'ordinary' contractor would be called for, I'm not called . . . The school district has never really used me before; I'm not on their top priority list. . . If they're interested in using women-owned businesses, they're not going out of their way to make it a possibility. . . In all good faith I have tried everything possible to get my foot in the door.

It is possible that discrimination against MBE/WBEs is perpetuated by the districts procurement practices. Contracting procedures, especially those involving contracts that are bid through informal procedures, may leave too much discretion in the hands of individual staff members who are deliberately or inadvertently overlooking qualified MBE/WBE firms in favor of established majority firms with a proven track record. The lack of clear and consistent application of procedures may explain why the school district is viewed by many minorities and women contractors as a closed and unfair system dominated by a "good old boys" network.

In addition to the general exclusionary practices described above, there are other more specific ways in which the school district practices perpetuate the "good old boys" network and exclude women and minorities. For example, several MBE/WBE contractors cited instances in which the school district inappropriately interfered with the bidding process. One such instance involved an auditing contract:

> I lost a $10,000 auditing contract because I was the second low bidder by $140. The contract went to the only other bidder. A firm who had been doing business with SFUSD for the past 10 years. Their prices had been higher in the past but they dropped them dramatically the year I bid against them. It's the old boys network. (Asian Auditor)

The MBE/WBE interviews suggest that another area of concern for MBE/WBEs attempting to contract with SFUSD is the relationship between MBE/WBE subcontractors and majority-owned prime contractors. This evidence of industry discrimination is consistent with the testimony given in hearings in connection with the adoption of the City and County of San Francisco MBE/WBE contracting

Table X-1
San Francisco Unified School District

TESTS OF STATISTICAL SIGNIFICANCE FOR
DISPARITY IN CONSTRUCTION CONTRACTS

	African-American	Asian	Hispanic	Native American	Minority	Female
PRIME CONTRACTS						
OVER $15,000						
Number of Contracts	-3.91*	-0.42	-2.03*	@	-4.81*	1.08
Contract Dollars	@	-1.56	@	@	-0.88	@
UNDER $15,000						
Number of Contracts	-0.47	-3.95*	-4.97*	@	-7.26*	-4.06*
Contract Dollars	-0.72	-1.87	-4.37*	@	-5.31*	-3.75*
SUBCONTRACTS						
Number of Contracts	-3.91*	-2.67*	-1.97*	@	-6.22*	0.56
Contract Dollars	-2.21*	-2.19*	-1.75	@	-4.70*	@
EARTHQUAKE FUND						
Number of Contracts	-1.83	-2.82*	0.63	@	-3.24*	-2.55*
Contract Dollars	-1.32	0.01	-0.71	@	-1.52	@
CONSTRUCTION-RELATED PROFESSIONAL SERVICES						
Number of Contracts	-2.93*	-2.09*	-1.48	@	-4.94*	-6.34*
Contract Dollars	-1.57	-0.40	@	@	-1.71	-3.53*

* Test is significant if value is greater than 1.96 or less than -1.96.
@ Minimum market share is too small to permit meaningful statistical results.

preference ordinance. According to the respondents, there is a general unwillingness on the part of prime contractors to work with minorities and women. For many MBE/WBEs the only way to gain access to the SFUSD contracts is to work as a subcontractor; however, they encounter prejudice and discrimination when trying to subcontract with majority primes. They describe the prevailing attitude among white male prime contractors to be that minorities and women are incompetent and not qualified to perform the highly technical work that the district requires. As one Hispanic Roofing contractor put it:

> It is not easy to team up with established general contractors as a minority. To them a minority is not able to perform any job well.

A Woman-owned Asbestos Contractor commented:

> Some primes might not be comfortable to subcontract to a woman-owned business. They fear that a woman-owned business might not be well organized or skilled enough.

MBE/WBEs also described specific problems such as bid manipulation and other attempts to avoid subcontracting with MBE/WBEs. MBE/WBEs gave examples of instances where they were not taken on as subcontractors by majority primes even though they were the low bidders. A black Plumbing contractor describes his experience on one school district contract:

> I bid for a remodeling job at Martin Luther King Middle School. I bid as a sub under a white prime. He took my bid and I learned later that the sub who finally got awarded the contract had a higher bid than mine. He was a white sub. I went to the school district to complain and was told there was nothing they could do about it. (Black Plumbing Contractor)

Even after obtaining contracts, MBE/WBEs continue to face discrimination by school district staff when carrying out work on the contract. In some cases, qualified MBE/WBE firms were taken off projects, told they were not qualified, and replaced by majority firms. In other cases, information was deliberately withheld from MBE/WBE contractors by project staff, making it difficult to complete their contractual obligations. The kind of frustration experienced by

many MBE/WBEs in contracting with the district is described by a Black Architect:

> They (SFUSD) did not want to negotiate with us about earthquake repair costs. We were already on the project and expected to complete it. Instead, they brought in a different company to complete the project. We were told that we could not handle the work. They hired a white engineering firm to assess the extent of the earthquake damage and make recommendations as how to repair it. We were equally qualified to do the same job. . . .We were very insulted. We are qualified and have relevant licenses to handle the job. We were walked over by giving the job to a white-owned firm. I feel we were discriminated against by the school district. First, our first part of the project was made very difficult due to the school district's lack of clear directions to us. We were receiving conflicting information from 2-3 different project managers. Yet, at the end we are told that we could not handle the job successfully, and that a new firm would do it faster. We do not feel we were treated fairly. It was very difficult working with the school district. (Black Architect)

A Woman Architect also experienced this type of frustration:

> My first bid experience was in 1983. It was a Leroy Green Renovation (type of architectural renovation) at Spring Valley Elementary School. I was prime. The contract was for $100,000. During construction I was treated very negatively by (name withheld), the assistant facilities director. . .
>
> . . .At the job site, we needed various site documents which they did not provide us with. At one time my head engineer requested to have a ceiling opened so that we could assess the scope of damage and estimate cost correctly, but the school district refused. They blamed us for having done work incorrectly, yet they did not give us an accurate site plan and failed to provide field investigation funds. These documents were needed in order for me to complete that part of the design correctly. . .
>
> . . .I have asked for recommendation from the school district but they have refused. I feel my firm has been very much misrepresented. I have also since learned that the assistant facilities director dislikes women. He talked openly around the office how much he did not want to work with me. What upsets me even more is that I have tried for over a year trying to get more work from the SD, but have not gotten any. I had expected open working relationship but I did not get it. They only blamed me for too much art work without stating clearly what that meant. (Woman Architect)

Even as successful subcontractors, minorities and women may face discriminatory treatment from majority primes. One contractor describes the difficulty he had on a renovation project for the school district:

> My first bid on a SFUSD contract was in 1979. . . We bid as subcontractors, and the amount of the contract was about $25,000. We sent in our bid and were later contacted by a general contractor that we were awarded the contract. We were subcontracting to a white prime. During the project the school district added extra work by expanding the room sizes and added some extra rooms which were not part of the original agreement. After the work was completed the general contractor was paid for the extra work but we were not paid anything.
>
> . . .He was dishonest and treated minority contractors very badly. However, I got along well the school superintendent, but I could not tell him because primes do not like it. You just don't jump over them and hold private discussions with any other person. I was afraid of future job loss case the news got around to other primes. Instead, I decided not to bid with that particular contractor anymore. I felt discriminated against. Because of this bad experience, I have never attemoted to bid on SFUSD's contract again. I was too angry and felt there was nobody to complain to. Besides myself, there were only one otner minority sub, a black man, who was a plumber and was also being treated very badly. He did go under on that project. The school district must have a way of monitoring the relationship between primes and subs. This must be made clear to them before they are awarded a contract. (Hispanic Sprinkler Installation Contractor)

Interviews with minority and women contractors show that there is considerable discontent among MBE/WBEs about the SFUSD contracting policies and practices. They describe numerous obstacles to bidding and contracting with the district which are attributed to discrimination. Further obstacles to contracting are experienced in working as subcontractors to majority prime contractors. In working as subcontractors MBE/WBEs are subject to stereotyping and discriminatory practices of prime contractors. The data suggest that these types of business practices occur with some regularity and are not isolated incidences.

Other Barriers to Contracting

Some obstacles to MBE/WBE contracting are common to all small business, including majority firms, and are not specifically the result of discrimination. However, perceived discrimination can compound the effects of these "small business" obstacles. Also, since industry discrimination can hinder the growth of minority- and women-owned businesses, small business problems can have a proportionately greater impact on MBE/WBEs.

One problem area has to do with the accessibility of the SFUSD. The preceding section discussed the MBE/WBE's perception of the SFUSD as a closed system perpetuating the "old boys" network. But some of the respondents complained about the difficulty of obtaining information and gaining entry into the District's contracts market without attributing the problem to their gender or ethnicity. For example, one Black Woman Computer Contractor said:

> I have not received any information from the school district. I am on the mailing list. I even attended a seminar early this year at one of the schools. I very much want to work for the school district. It is difficult to learn about contracts.

Other contractors echoed that complaint, listing actions taken to obtain information such as calling, writing, attending meetings, etc. An Asian Sheet Metal Contractor's comment epitomizes the sense of frustration:

> I have called the SFUSD a couple of times in the past and got no response after leaving messages. Once, I went in and ran into SFUSD Project Head of Planning and Analysis. He referred me to the Director of Facilities Planning and Construction at the school. He referred me to the school staff, but when I went in again, the staff said they didn't know where the Director of Facilities was and that they didn't know anything about bidding with the school. Frustrated, I called and said I'm still not getting any work from the SFUSD. Forget it now. They just give you the runaround.

In addition to the problems of accessibility of information and staff, there are other kinds of obstacles which many new or small businesses face. For example, there are costs involved in preparing and submitting bids which may be

prohibitive for a small or under-capitalized firm. Similarly, a contractor may have to provide expensive materials or equipment that he or she cannot afford before any payment is received. Slow payment, which is common in the district and among prime contractors is another financial burden on small firms. High costs, along with inaccessibility of financing, bonding and insurance are particularly difficult obstacles for small and new business. One Asian construction contractor summed up these issues well:

> Minority businesses have difficulty competing with big companies successfully. These companies usually get better financing for their projects. The high cost of materials, high cost of financing, plus the bond and insurance requirement, makes it very difficult for me to compete within the system as it is now set up. Credit is usually not available to small minority businesses from material suppliers, banks and other financial institutions. To qualify you must show that you have been in business for a long time, have required collateral and track record of business transactions.

Although he refers to these problems as being faced by minority or small minority business, they are probably shared by all small business. There is a feeling among the study's respondents that these problems are greatest for minorities, but the study cannot objectively prove that perception.

This "gray area" (problems shared by MBE/WBEs and majority small business), is important when examining the discrimination experiences of MBE/WBEs with regard to SFUSD contracting, even though it addresses issues that are not definitively a result of discrimination. It is possible that problems experienced by all small or newly formed business attempting to contract with the SFUSD have a special impact on Women and Minority Owned business. The cumulative effect of these small business-type problems, when added to the perception of unfair, discriminatory treatment, could serve to discourage women and minorities from attempting to contract with SFUSD.

CONCLUSION

The results of the narrative/historical study show that women and minority contractors experience discrimination in contracting with SFUSD.

In general, MBE/WBE's perceive the business practices of SFUSD as facilitating the perpetuation of the "old boy network" and excluding or limiting the participation of women and minorities in contracting.

SFUSD appears to exclude women and minorities at the most basic levels by limiting access to information necessary for attempting to contract. Further, SFUSD's bid process is seen as giving preference to white contractors long established with the district. Respondents suggest that despite the appearance of open bidding, contracts are "wired" with a majority contractor already designated.

The majority prime contractors themselves (who belong to the "old boy network") also act to exclude women and minorities by not subcontracting to them. Since for many women and minority firms, subcontracting is the only path to contracting with the school district, the primes' exclusion effectively prevents their participation.

MBE/WBEs are also subject to discriminatory treatment from both school district staff and prime contractors even when they are successful in winning a contract. Respondents report unfair treatment in the process of attempting to conduct their work. These kinds of experiences lead to problems that can be very damaging to the reputation and future of the MBE/WBE firm involved.

The kinds of obstacles often defined as small business issues may have particular impact on women and minority businesses. There is a possibility that barriers such as bonding, insurance, financing, materials costs, etc., are more likely to be actual barriers for MBE/WBE's than for small majority-owned businesses, since the existence of the "old boy network" may make it easier for small majority contractors to overcome these obstacles. Even if these kinds of problems are not specific to MBE/WBEs, it may be that given the context of discrimination they become insurmountable barriers.

San Francisco Unified School District does not, of course, have a deliberate policy of discrimination against women and minority contractors.

However, the lack of uniformly enforced, systematic contracting procedures within the district permits a great degree of subjectivity in the contracting process. Stereotyping and discriminatory attitudes and practices among district staff can easily exist in such a context.

SAN FRANCISCO UNIFIED SCHOOL DISTRICT STUDY

SCREENING QUESTIONNAIRE

Phone # _____

Company name _____

Respondent name _____

Position _____

1. Have you ever bid on a San Francisco Unified School District contract?

   Yes.....1 (Go to Q5)
   No.....2 (Ask Q2)

2. Are there contracts you have wanted to bid on that you haven't?

   Yes.....1 (Go to Q5)
   No.....2 (Ask Q3)

3. Have you wanted to work for the School District but have not bid?

   Yes.....1 (Go to Q5)
   No.....2 (Ask Q4)

4. Are you at all interested in contracting with the school district?

   Yes.....1 (Go to Q5)
   No.....2 (Thank and Terminate)

5. As a minority/woman business owner, have you had any difficulty or problem in bidding or contracting (or, even, attempting to bid or contract) with the School District?

   Yes.....1 (Go to Q6)
   No.....2 (Thank and Terminate)

6. Could you tell me a little about that/what kinds of problems have you had? (If respondent has any appropriate experience, schedule interview.)

Appt:_____

SAN FRANCISCO UNIFIED SCHOOL DISTRICT STUDY
INTERVIEW GUIDE

Date _____

Time _____

Case # _____

Telephone # _____

Company name _____

Respondent name _____

I. Bidding and Contracting History

Q1. Have you ever bid on a San Francisco Unified School District contract?

[If yes, ask Q1A.]

[If no, go to Q2.]

Q1A. Describe First bid Experience- When, type of contract, prime/sub? dollar amount, how found out about bid opportunity? What happened? How felt about bidding process? What kinds of problems/difficulties, if any, did you have in bidding on or conducting the work? [If sub] How did you get along with Prime? Problems with Primes in bidding or doing work? [Probe for any specific obstacles/ discrimination]

Second bid- (same as above)

Repeat for every bid up to 5. Make sure to include most recent experiences in trying to contract with the school district.

Q2. [Ask everyone] Are there contracts you have wanted to bid on that you haven't? If yes, why haven't you bid?

Q3. [If no to both 1 and 2] Have you wanted to work for the school district but have been unable to bid? If yes, what has kept you from bidding?

Q4. [If no to Q1,2 and 3] Why aren't you interested in bidding/contracting with the school district?

Q5. [Ask everyone] Have you ever received a school district contract (as a subcontractor or prime) that you had not bid on?

[If yes, ask same sequence as bidding]

II. Relationship with Primes

1. Personal experience with primes - ever work as sub? which primes? ever solicited primes? been solicited by primes? perceptions of relationship, perceived obstacles/ discrimination (see probe list)

III. Competition

1. Who's your competition? Who bid against? Are you competitive? What's keeping you from being as competitive as you would like(probe for obstacles and discrimination)?

2. What disadvantages do you face as a M/WBE? Are they different than other small businesses?

IV. Perception of W/MBE Program

Would such a program make a difference in how school district contracts are awarded? Would help/hurt your business?

V. Societal Discrimination

Past and present experiences (e.g. education, job history, etc.) that may have interfered with development or growth of business(Probe for impact of discrimination on business development)

SAN FRANCISCO UNIFIED SCHOOL DISTRICT STUDY
DEMOGRAPHIC PROFILE

Case # _____

Telephone # _____

1. Company name _____

2. Respondent name _____

3. What is your position?

   1 Owner-Principal
   2 Corporate Officer
   3 Other (specify) _____

4. What is your primary business?

   _____

5. In what year was your company started?

   _____

6. Is your company a . . .

   1 Woman-owned business
   2 Both woman- and minority owned
   3 Minority-owned

7. [If minority-owned] Which minority or ethnic group owns a majority of the company?

   1 African American/Black
   2 Hispanic/Latino
   3 Asian American
     (specify) _____
   4 Native American
   5 Other
     (specify) _____

8. What percentage of your 1989 revenues came from the following:

   A. The Private Sector _____%
   B. Local Government _____%
      (that is city, county, etc.)
   C. California State Agencies _____%
   D. Federal Government _____%

9. How many employees do you have?

1 0
2 1-5
3 6-20
4 21-50
5 51-100
6 More than 100

10. In what city is your primary office?

_____

11. Is your company certified as a W/MBE?

1 Yes
2 No

12. In which certification program(s) is your company registered?

_____

13. How old are you?/In which age group are you?

1 18 - 25
2 26 - 35
3 36 - 45
4 46 - 55
5 56 - 65
6 66+

14. Education (highest grade or year completed):

1 Some High School
2 HS Graduate
3 Some College
4 College Graduate
5 Some Graduate School
6 Completed Graduate School

15. Was your 1989 gross revenue . . .

1 under $50,000
2 $51 - 100,000
3 $101 - 500,000
4 $501K - $1M
5 > $1M

POTENTIAL OBSTACLES (PROBE)

- o Getting certified
- o Technical difficulty of bidding process
- o Not enough time to bid
- o Could not finance receivables/difficulty getting financing
- o Could not get bonding or enough bonding
- o Could not get competitive prices from suppliers
- o Bid process too expensive
- o Contract specifications have been too strict
- o Slow payment or dispute over payment by the State
- o Exclusion from "Old Boy" network in efforts to contract
- o Lack of proper licenses or certifications
- o Double standards in performance
- o Unwillingness of majority firms to work with women- or minority-owned businesses
- o High cost of insurance
- o Redlining
- o Bid shopping
- o Request for bid from prime at last minute
- o Dropped by prime after contract awarded
- o Other type of bid manipulation

V. STATISTICAL FRAMEWORK

A disparity analysis of participation rates of minority and female contractors in SFUSD construction, equipment and supplies, and professional services projects begins with an investigation of the contracting records. Contract data from the three most recent fiscal years serve as the basis for this study. The utilization data reveal the geographic composition of the relevant market area for each trade category, as well as the percentage of contract awards won by minority contractors within that market. Once the percentage of awards won by a particular minority group within a trade category has been calculated, it is compared to that group's availability, or relative share of the contracting market, to determine whether there is a significant disparity between the two measures.

RELEVANT MARKET AREA

The utilization/availability analysis is carried out within the relevant market area for each trade category with which SFUSD contracts. The relevant market area for construction contracting, for example, refers to the predominant geographic area that SFUSD draws upon in purchasing construction services.

Economic Theory of Market Areas

The economic basis for a geographic market area concept is the fact that the total costs of a purchase typically include costs related to the distance between a buyer and a seller, in addition to the cost of production of the good itself. In the field of regional and urban economics, the theory of market areas -- often referred to as *central place theory* -- is most often developed for the market area of the seller.[1]

[1] Virtually any textbook on urban or regional economics contains a discussion of market areas. For a recent example, see Arthur M. Sullivan, Urban Economics, Boston: Irwin, 1990, Chapter 5.

The stylized picture is of a "featureless plain" with a number of sellers of a uniform good spread out across an area containing numerous consumers. The purchased cost of the good is assumed to be an increasing function of the distance between the buyer and seller. In the case of goods with a significant ratio of weight to value -- goods for which the cost of transportation is a significant portion of total cost -- this distance cost is the transportation cost of the good. The market area for the seller encompasses the area in which the cost of transportation is lower from that seller than from any other seller. In this very stylized model, all buyers within the market area purchase goods from the nearest seller.

Numerous factors complicate this simple picture and create difficulties for applying it directly to actual situations. Products and services are typically not standardized, and buyers make choices along several dimensions, such as quality, in addition to cost. Costs of distance go beyond simple transportation costs to include communications costs. In turn, communications costs involve several dimensions, such as the ability to quickly discuss changes in a complex project or the ability to make use of informal channels to get information ahead of time about the reliability of the seller. These informal channels include other buyers, the presence of which also may be related to distance.

Nevertheless, the general proposition that most goods and services are purchased by buyers from relatively nearby sellers remains an important, if fairly obvious, insight in determining relevant market areas for policy purposes. Certainly this is true in the market for construction contracts.

Translating Theory to Practice: Market Area Calculations

In practice, market area analysis is used in several policy-oriented applications. One application closely related to the issue of MBE contracting is that of determining employment discrimination, in which labor market areas are defined to allow for availability calculations in terms of job candidates from different ethnic and gender groups.

One important difference between the simple theoretical analysis described above and the actual analysis of market area is that it is almost always the case that there will be exceptions to the theoretical generalization which states that a seller will never sell (or a buyer will never buy) outside his particular market area because there will be a closer competitor with a lower price, once transportation costs are included. The world is not this simple. For example, a merchant in a small California town will most likely have a market area that is essentially local, and yet still have a customer or two who live out of the state altogether, perhaps because they had previously lived in the town but had moved away.

As a practical matter, then, a market area for a particular product or service is defined in terms of nearby geographically contiguous areas in which a high percentage of such purchases are made, even if there are some exceptions to the general rule.

DEFINITION OF MINORITY GROUPS

For purposes of this study, MBEs were subdivided into the categories of African American, Asian, Hispanic, and Native American. A WBE is a firm with 51 percent or more of the ownership held by females. A female entrepreneur who is also a member of an ethnic minority is counted both as a female contractor and as a minority contractor.

The selection of minority groups is important for both political and analytic reasons. Many ethnic subgroups within the San Francisco community, such as Vietnamese and Asian Indians, would prefer to be recognized as distinct groups to assure representation in an MBE/WBE preference contracting program. For analytic purposes, however, too fine an ethnic breakdown can result in statistical tests that are meaningless for the smaller groups. A finding of statistical significance for even an apparently gross measurement of disparity is rendered impossible if the ethnic group's relative representation in the contracting population is too small. This will be explained more fully in the following section of this chapter.

AVAILABILITY

Availability of MBE/WBEs, measured as the proportion of MBE/WBEs to total firms available and willing to perform public contracts, serves as a basis of comparison for the percentage of MBE/WBE utilization. If School District contractors were selected at random without regard to race or gender, one would expect minority representation among SFUSD contractors to be roughly comparable to their availability in the construction market. An accurate representation of the proportion of MBE/WBEs among available firms plays a vital role in reaching a conclusion about potential disparity in hiring for public contract work. Undercounting the proportionate share of the market made up of MBE/WBEs tends to justify otherwise unacceptably low utilization figures. Overcounting the proportionate share of the market made up of MBE/WBEs, on the other hand, causes the utilization proportion to be compared against an unreasonably high standard.

Conceptual Issues in Measuring Availability

Three conceptual issues regarding the measurement of availability of MBE/WBEs need to be addressed before the empirical work can be appropriately structured. These conceptual issues include the problem of deterred firms, consideration of some measure of capacity of the firms available for public contracts, and interest of firms in the relevant industries in pursuing public contract work. Each of these points will be considered in turn.

Deterred Firms

Virtually without exception, no data source for determining MBE/WBE availability will yield a count of "deterred firms," a term used to describe firms that were never formed because discrimination would have limited financial resources available to the firm and the amount of work that the firm would have been able to generate.[2] The most that can be expected is a count of existing firms. To the extent that the number of existing MBE/WBEs is lower than it would have been absent discrimination, availability measured by the ratio of MBE/WBEs

[2] Marc Bendick, Jr., "The Croson Decision Mandates that Setaside Programs Be Tools of Business Development," May 1989.

to total firms in a geographic region is biased downward. Since deterred firms cannot be directly measured empirically, adjustments to represent deterred firms in the availability ratio would have to rely on a model of firm formation characterizing the potential impact of discrimination.

Capacity of Firms

Once a count of the proportion of minority enterprises within a given market is determined, a decision must be reached as to whether any adjustments should be made for size, or capacity, of minority-owned businesses relative to the capacity of majority-owned enterprises. The most common adjustments for capacity include weighting the number of firms by number of employees or by annual gross revenue or sales. Since there is evidence to suggest that minority-owned businesses tend to be smaller than majority-owned firms, the ratio of the raw count of MBE/WBEs to total firms within an industry could overstate MBE/WBE availability unless some adjustments are made for the relative capacity of firms.

There are problems inherent in attempting to adjust a count of firms by their capacity because such an adjustment implicitly assumes that the firm will remain the same size. The possibility of firm growth, which might be partially attributable to winning a relatively large contract, is ignored. If some capacity adjustment is deemed appropriate, another problem arises similar to the problem of deterred firm formation. Weighting the number of firms by current average gross sales or current number of employees might have the effect of reinforcing past discrimination. That is, if it is true that MBE/WBEs on average have lower capacity than majority firms due to past discrimination, measuring availability as the number of firms weighted by their current average capacity would cause the utilization figures to be compared to a lower standard than would have been the case absent discrimination. In other words, weighting the raw count of firms by current average capacity overcompensates for the upward bias imposed by the omission of a capacity measurement.

Consideration of these offsetting biases lends support to the method of measuring availability as the simple ratio of number of MBE/WBEs to total number of firms. The omission of an adjustment for deterred firms biases the ratio downward, while the omission of an adjustment for average capacity biases the

ratio upward. Measuring availability by the simple ratio of the raw count of MBE/WBE firms to total firms in the market does provide a practical method of dealing with some of the concerns expressed above.

Interest in Performing Public Contracts

Interest in performing public contracts is another issue to be considered in determining availability. Many firms that could be potential competitors for public contracts choose not to compete in the public sector in order to avoid the bureaucratic burdens of certification, bonding, and other requirements imposed by the local jurisdiction on potential bidders. This applies to both MBE/WBEs and majority-owned firms. Without conducting extensive surveys of both MBE/WBEs and majority-owned firms, it is difficult to derive a useful proxy for interest in performing public contracts. One approach is to measure availability by counting only those firms that have taken steps to indicate interest in performing public contracts. Such steps include bidding on public contracts or complying with the procedures necessary to certify a firm as an MBE or WBE.

Methods of Measuring Availability

Two methods of measuring availability are commonly used for MBE/WBE disparity studies. The first is based on publicly available information compiled by the U.S. Bureau of the Census. The other method relies on contracting data maintained by the jurisdiction. A summary of each of these techniques follows.

Availability Defined by Census Data

Numbers reported by the U. S. Bureau of the Census are viewed as objective, reasonably reliable counts. Moreover, these numbers are readily available and can easily be verified. However, the most recently reported numbers can be quite old. The most recent complete set of counts of MBE/WBEs was collected in 1982. Another census of MBE/WBEs was conducted in 1987, but the full set of these numbers has yet to be released. Since the pace of creation and dissolution of small businesses is rapid, data from 1982 or even 1987 may present a very different picture than that which actually existed in 1990.

Numbers pertaining to the availability of MBEs are published in the *Survey of Minority-Owned Business Enterprises* (*SMOBE*); statistics relating to the

availability of WBEs are reported in the *Survey of Women-Owned Business Enterprises* (*SWOBE*). *SMOBE* and *SWOBE* are published every five years. Total number of establishments with payroll by industry breakdowns can be obtained from *County Business Patterns*, which is published annually.

SMOBE reports data on businesses owned by blacks, persons of Spanish or Latin American ancestry, and persons of American Indian, Asian, or other minority origin or descent. In both *SMOBE* and *SWOBE*, national statistics for 1982 are reported at the three-digit SIC level.[3] The 1982 statistics for Metropolitan Statistical Areas (MSAs) and counties are reported for those jurisdictions with 250 or more minority-owned or women-owned businesses. However, for purposes of confidentiality, *SMOBE* and *SWOBE* report county and MSA data at the aggregated level of nine industry divisions.

The data from *SMOBE* and *SWOBE* are unlikely to be complete because only firms that are sole proprietorships, partnerships, or subchapter S corporations are included. The number of regular corporations with numerous stockholders is not tabulated because ownership is too difficult to determine for these firms.

There are some idiosyncracies about the way in which the minority classifications are determined that must be kept in mind when analyzing the data reported in *SMOBE* and *SWOBE* across years. In the 1982 survey, a single firm could be classified in multiple categories. A sole proprietorship could appear in two minority categories based on race and ethnicity. For example, an entrepreneur might be classified both as Black and as Hispanic. Firms with multiple owners could be categorized into multiple race and multiple ethnicity categories, reflecting the ancestry of each owner. This means that it is inappropriate to add numbers across the various minority business surveys. The changes as of the 1982 compilation of minority figures complicate comparisons

[3] The Standard Industrial Code is an industrial classification scheme developed by U.S. Office of Management and Budget. The broadest industrial categories are represented at the one-digit level of classification. Within each one-digit category, finer breakdowns are represented by increasing the number of digits to a maximum of four.

with data from earlier surveys in which firms were classified in only one minority category.

At the time of this writing, the most current complete set of *SMOBE* and *SWOBE* data was collected in 1982. Hence, these numbers are too old to provide a reasonable bench mark for utilization figures derived from contracts awarded from fiscal 1987-88 through fiscal 1989-90. In this study, whenever availability measurements are derived using data from the U.S. Bureau of the Census, projections of availability for minority firms are estimated for 1989, the midpoint of the utilization data collected for SFUSD.[4]

Availability Defined by Bid Lists for Public Contracts

Another source for determining availability of MBE/WBEs relative to total firms willing and able to perform public contracts are the bid lists for public contracts. For some trade categories, the School District has maintained lists of bidders for each contract awarded in the past several years. Such lists provide timely information about all firms, including MBE/WBEs, interested in pursuing public contract work. Adjustments for interest are unnecessary since the bid itself is a proclamation of interest in public work. Bid lists also have the advantage of permitting definition of availability at a geographic level smaller than the state.

There are some drawbacks associated with the use of bid lists for public contracts in determining availability. Bid lists do not identify those firms that have self-selected out of public contract work because of perceived discrimination in the selection process. Even if the bid lists provided a complete identification of firms considered by the School District to be eligible to compete for their contracts, they might provide an inappropriate means of determining availability of MBE/WBEs if the lists are skewed by potentially discriminatory practices in the bid procedures that discourage bids from particular groups.

[4] See the appendix to Chapter VIII, "Disparity Analysis of Purchasing Contracting," for a detailed description of the availability projections used in this study.

To counter these concerns, the list of available firms derived from the bid lists can be supplemented with firms that appear in MBE/WBE Directories for other jurisdictions. It should be noted, however, that only minority- and women-owned firms that have completed a certification process for the particular jurisdiction appear in an MBE/WBE Directory.

This procedure of measuring availability potentially excludes some firms, MBE/WBEs as well as majority-owned firms, that might have had an interest in School District contracts but had not demonstrated that interest, either by submitting a bid or by renewing MBE/WBE certification, during the years under study. However, since the relative market share is the measurement of availability that is compared with the utilization percentage, this method is effective as long as there is no reason to believe that a particular ethnic group has been systematically undercounted.

Necessary Conditions for Meaningful Statistical Tests

The statistical tests used in this study to measure the disparity between the percentage of actual contract awards to a particular ethnic group and that group's relative share of the contracting market is meaningful only if the group holds a sufficiently large share of the market.[5] This is true because there is a lower bound of zero on the number of contracts or contract dollars that can be awarded to any group. In other words, the mathematics will not allow a finding of statistically significant disparity between a percentage utilization figure of zero and a sufficiently small proportionate share of the relevant market. In those instances in which an ethnic group's market share falls below this level, no statistical conclusions can be drawn.

In the case of the statistical tests for disparity in terms of number of contracts awarded, the term "sufficiently large" depends on the number of contracts awarded. The smaller the total number of contracts, the larger the

[5] See the Technical Appendix at the end of this chapter for the derivation of the minimum market share required for a statistically meaningful result.

relative market share must be for a particular group before meaningful statistical conclusions can be reached. For the tests based on contract dollars awarded, "sufficiently large" depends on the total contract dollars awarded, as well as the distribution of contract sizes. The greater the variability in the size of contracts awarded, the larger the proportionate share of the market must be in order to draw meaningful statistical conclusions regarding the disparity between contract dollars awarded and availability for a particular ethnic group.

Statistical tests are powerless for determining whether there is sufficient evidence of discrimination to support remedial programs for a group with a small relative share of the contracting market. In these cases, it is impossible for the test to reveal a statistically significant disparity. Rather, the decision as to whether a remedial program should include these groups must be based on alternative forms of information such as historical records or the oral historical analysis presented in Chapter IV of this report.

UTILIZATION

The concept of a utilization measurement is quite straightforward. It is simply the percentage of contracts or contract dollars that are awarded by SFUSD to each ethnic group within each trade category. However, several decisions must be made in the process of developing the utilization figures that could have a pivotal impact on the statistical tests for disparity. Decisions regarding data collection methods, appropriate levels of aggregating the data within trade categories, and information sources to be used in identifying the ethnicity of contractors all have to be addressed before arriving at a utilization measurement.

For purposes of this study, all prime contracts and subcontracts for which the School District could supply sufficient information were included in the analysis. No sampling of contracts was used for any trade category. Sufficient information was deemed to consist of the name and address of contractors that worked on a School District project, the type of work performed, and the award amount of the contract.

Within the trade categories of construction, printing and publishing, equipment and supplies, general services, and professional services, appropriate breakdowns of the contracts had to be considered for purposes of analysis. Differences in the decision processes used to select winning contractors was the basic criterion used to disaggregate the data. For example, the award process used to select a construction contractor depends on the size of the contract. Construction projects over $15,000 must be publicly advertised and formally bid; projects below this level are bid informally. Within the trade categories of printing and publishing, equipment and supplies, general services, and professional services, the type of work to be performed in part determines the selection process to be used in awarding the contract. Contracts awarded under each of these different decision processes requires separate analysis so that a determination can be made as to the effectiveness of the contracting process in eliciting bids from minority and women contractors.

Since SFUSD has not had a minority and women contracting preference program for many years, very little information regarding the ethnicity of contractors was found in the contract files. Other sources had to be consulted to obtain this information. For this study, several steps were used to classify the contractors into ethnic and gender categories. First, any ethnic information contained in the contract files was collected. Then the San Francisco Human Rights Commission MBE/WBE Directory was used to identify additional contractors and vendors. Next, School District personnel were asked to identify the ethnic and gender ownership of the remaining contractors. Finally, every contractor whose ethnic and gender identity was still unidentified was contacted by telephone.

The final utilization measurements used for each trade category were derived from those contract records for which the award amount and the name, address, and ethnic and gender classification of the contractors were known.

To the extent that contract records were omitted from the utilization percentages, biases in the statistical results are possible.[6]

DISPARITY ANALYSIS

The framework for the disparity analysis is introduced through means of an analogy between the statistical tests used to evaluate employment discrimination issues and the tests developed here to analyze disparity in contracting for the School District.

The Supreme Court stated that a gross difference between the actual and expected utilization of MBE/WBEs on contracts let by a particular jurisdiction could lead to an inference of discriminatory practices. One measure of this disparity is a test of the statistical significance of the difference between the two quantities. In order to make statistical inferences from data, it is necessary to work from a framework that explains how the data were generated and how the results are to be judged. Tests of statistical significance rely on a framework of *sampling*. For purposes of analyzing the MBE/WBE contracting data, it is useful to first consider the sampling framework used in employment discrimination cases.

Employment Discrimination

A typical presumption inherent in most analyses of employment discrimination issues is that a non-discriminatory hiring process will result in the proportion of jobs at a particular firm going to a minority group being close to the proportion of available minority group members in the population from which the jobholders are drawn.[7] Thus, the firm's hires are regarded as a sample drawn from a larger population. The difference between the proportion

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[6] There was no reason to believe that omission of data was systematic within any trade group; hence, the direction of potential biases due to omission could not be determined *a priori*.

[7] For discussions of the application of sampling models and statistical significance in employment discrimination cases, see Freeman (1977) and Meier, Sacks, and Zabell (1986).

of minorities hired versus the proportion of minorities in the population is called the observed disparity. Standard statistical tests are used to determine whether the disparity is statistically significant. A disparity is statistically significant if its size cannot be reasonably attributed to chance variation.

The proportion of jobs going to minority groups is an important measure of discrimination, but it is not the only one. A second commonly used measure is the difference in the wage earned by minority and non-minority group members. A direct analogy can be made between the employment discrimination case and the case of School District contracting with MBE/WBEs on SFUSD projects. Disparity can be measured either in terms of the number of contracts awarded to MBE/WBEs or in terms of the number of dollars awarded to these firms. Together, these two measures provide more information about School District contracting practices than either one can independently.

Discrimination in School District Contracting and Subcontracting[2]

Richmond v. Croson mandates an appropriate comparison between the School District's utilization of MBE/WBEs for construction contracting and the availability within the relevant market of MBE/WBEs that are willing and able to perform School District contracts. If there is a significant disparity between these two figures, "an inference of discriminatory exclusion could arise."[3]

Whether the comparison is made in terms of number of contracts or dollars awarded, the actual awards are compared to the expected awards -- that is, the amount that would have been awarded to MBE/WBEs if the selection had been made on the basis of availability, independent of race or gender. The difference between these two figures is referred to as the disparity measurement. For the comparison of number of contracts awarded to MBE/WBEs, the expected number of awards is calculated as the proportionate share of the market made up of MBE/WBEs multiplied by the total contracts awarded by the School District. Similarly,

[2] See the Technical Appendix to this chapter for a more complete development of the statistical tests used in this study.

[3] *Croson*, p. 4143.

for the comparison of contract dollars awarded to MBE/WBEs, the expected dollar value of construction contracts is calculated as the proportionate share of the market made up of MBE/WBEs multiplied by the total contract dollars awarded by the School District.

To test whether a disparity between the actual and expected share of contracts to a minority group is statistically significant, the disparity is compared to its standard error. The standard error provides a measure of the typical size of a disparity under sampling variation. If the ratio of the disparity to its standard error is very large, the disparity is statistically significant. Disparities which are statistically significant are assumed to be the result of factors other than chance variation.

For tests based on either the number of contracts or number of contract dollars, the variability in the disparity measurement falls as the market share for a particular minority group decreases. In the case of disparity in number of contracts awarded, the variability also depends on the total number of contracts awarded. For the disparity in number of contract dollars awarded, the variability depends on the total dollars awarded, as well as the distribution among the contract sizes.

Using conventional definitions of statistical significance, the ratio of the disparity measurement and its variability must be greater in magnitude than 1.96 before the disparity measurement can be considered statistically significant.[10] If a test statistic falls below 1.96, it means that the variability in the disparity measurement is large enough to account for the observed difference between the utilization and availability percentages. On the other hand, a test statistic greater than 1.96 does not explain why the difference between the utilization and availability percentages are so large; rather, it simply means that the difference is unlikely to have been so large by chance.

[10] This assumes that the disparity measurement is normally distributed and that the test is a two-tailed test at the 5 percent level.

It is important to note that a cutoff value of 1.96 for the test of statistical significance is an arbitrary rule of thumb. A lower level of statistical significance simply diminishes the level of confidence with which the results can be stated. Moreover, a test value less than 1.96 in magnitude should not necessarily be interpreted as evidence of *no* discrimination. It does not rule out the possibility that a low value of actual awards for an ethnic group, relative to their availability, could be the result of discrimination, which might be indicated by other evidence. Neither does it rule out particular instances of discriminatory action against individual contractors.

CONCLUSIONS

In summary, a statistical test of disparity in contracting with a particular minority group starts with a geographic definition of the relevant market area for each trade category. Then a measurement of availability is derived, either projected from numbers published by the U.S. Bureau of the Census or estimated from bid lists of successful and unsuccessful bidders. The availability measurement, or market share, is used as a bench mark for the percentage of contracts expected to be awarded to minority bidders.

Contracting records maintained by SFUSD are the source of utilization data, that is the percentage of contracts and contract dollars actually awarded to minority contractors. If the actual utilization percentage for a particular minority group is significantly smaller than that group's relative share of the market, the disparity between utilization and availability is said to be statistically significant. That is, the size of the disparity in contract awards for that minority group can be attributed to something other than random chance.

TECHNICAL APPENDIX

This appendix presents the development of the statistical test discussed in Chapter V that was used to determine whether there is a statistically significant disparity between the utilization and availability of minority and women contractors on SFUSD contracts. The test is based on a comparison of the percentage of School District contracts or contract dollars actually awarded to a particular minority group and that group's share of the relevant market area. A symbolic representation of these comparisons is useful.

For notational convenience, the model is written with respect to a single minority group (denoted by the subscript m), and the total population of contractors (denoted by the subscript t). The subscript i represents a typical School District contract. Let

C_i = Dollar value of the ith contract

C_m = City contracting dollars awarded to minority group contractors

C_t = Total City contracting dollars

n_m = Number of available minority group contractors

n_t = Number of available total contractors

S_m = Average contract size for minority contractors

S_t = Average contract size for total contracts

k_m = Number of contracts going to minority group

k_t = Total number of contracts

p_m = Estimated proportion of available contractors who are members of the minority group

COMPARISON OF ACTUAL AND EXPECTED AWARDS

The appropriate comparison in terms of number of contracts is whether the actual number of contracts awarded to a minority group is less than the expected

proportionate share of contracts going to that group. In symbolic terms, this can be written as follows:

$$(1) \qquad k_m < p_m * k_t .$$

Inequality (1) is a comparison between the utilization of minority contractors and their availability in the population of contractors willing and able to perform City contracts. That is to say, the expected share of total contracts awarded to the minority group is simply their proportionate share of total contracts awarded.

The appropriate comparison between the actual contract dollars awarded to the minority group and their expected proportionate share of total contracting dollars can be written as follows:

$$(2) \qquad C_m < p_m * C_t .$$

Since total dollars awarded to a group is equal to the total number of contracts multiplied by the average size of contract awarded to that group, it is instructive to rewrite (2) accordingly:

$$(3) \qquad C_m = k_m * S_m < p_m * k_t * S_t = p_m * C_t .$$

This decomposition is useful for two reasons. First, it helps to demonstrate how the difference between actual and expected number of contracts awarded affects the difference between actual and expected contract dollars awarded. Second, this decomposition permits a view of the problem that is analogous to the case of employment discrimination discussed in Chapter V. That is, the comparison is now stated in terms of the percentage of contracts awarded to the minority group and the average size of the contracts awarded to that group. The total dollars awarded to the minority group could fall short of the expected amount either because fewer contracts were awarded than the expected number or because the average size of the contract awarded to the minority group was

smaller than the average size of contract awarded to the general population of contractors.

STATISTICAL SIGNIFICANCE

In order to determine whether there is a gross disparity between utilization and availability of MBE/WBEs, a test of statistical significance of the difference between the two quantities can be used. A test of statistical significance is a comparison of the difference between the actual and expected utilization and a measure of the variability in the utilization. The purpose of the test is to determine the probability that the difference could have been as large as it is by chance. That is, the value of the test statistic corresponds to the probability that the difference between utilization and availability could be as large as observed, even though the awards of contracts were made in the absence of discriminatory contracting processes. The larger the value of the test statistic in absolute terms, the lower the probability that the difference could have been so large by chance.

Symbolically, the test of statistical significance for the number of contracts awarded is written as the ratio of the following two quantities:

(4) $k_m - p_m * k_t$

and

(5) $SQRT [p_m * (1 - p_m) * k_t]$.

The quantity shown in (4) is the difference between the actual number of contracts awarded and the expected utilization based on availability. The quantity shown in (5) is the measure of the variability in quantity (4). The variability in the number of contracts awarded to MBE/WBEs depends on the likelihood of selecting an MBE or WBE for any given contract, along with the total number of contracts awarded. The larger the variability in the utilization

measure, the larger the difference in (4) must be to reach a conclusion that the difference is unlikely to have happened by chance.

The test for statistical significance between actual contract dollars awarded to MBE/WBEs and the amount expected to be awarded to them is similar to the test for number of contracts awarded. For this comparison, the test is written as the ratio of the following two quantities:

(6) $C_m - p_m * C.$

and

(7) $SQRT [p_m * (1 - p_m) * \Sigma C^2]$.

Again, the quantity shown in (6) is the difference between the actual dollars awarded to the minority group and the expected dollar awards based on their availability. The quantity shown in (7) is a measure of the variability of the quantity in (6). The greater the variation in sizes of contracts awarded, the larger the quantity in (7) becomes. In turn, the larger the quantity in (7), the less probable the difference in (6) is to be judged unlikely to have happened by chance.

Regardless of whether the measurement is made in terms of number of contracts or total dollars awarded, the difference between actual utilization and expected utilization of MBE/WBEs is typically judged to be statistically significant if the appropriate ratio is greater in absolute value than 1.96. When this result holds, there is less than a 5 percent probability of observing such a large difference by chance."

" This assumes that the quantities shown in (4) and (6) are normally distributed and that the test is a two-tailed test at the 5 percent level.

NECESSARY CONDITIONS FOR MEANINGFUL STATISTICAL TESTS

A necessary condition for finding a statistically significant disparity between the utilization and availability of a particular minority group is that that group command a sufficiently large share of the relevant market. The derivation of the minimum market share needed to find a statistically significant disparity in the number of contracts awarded is presented below. A similar measurement can be derived for a test based on the number of contract dollars awarded.

First, assume that the number of contracts won by minority group m is at its minimum value, namely zero. In order to find a statistically significant disparity, the ratio of (4) to (5) must be no greater than -1.96.

$$(8) \qquad \frac{0 - p_m k_t}{\text{SQRT}\left[p_m * (1 - p_m) * k_t \right]} <= -1.96 .$$

Rearranging terms and squaring both sides results in the following:

$$(9) \qquad p_m / (1 - p_m) >= (1.96)^2 / k_t .$$

Rearranging terms again yields the minimum market share required to obtain a statistically significant disparity at minimum, or zero, utilization.

$$(10) \qquad p_m >= (1.96)^2 / \left[k_t + (1.96)^2 \right] .$$

The minimum market share required for meaningful statistical results with regard to the number of contracts awarded depends on the level of significance for the statistical test and on the total number of contracts awarded to all ethnic and gender groups. For tests based on the number of contract dollars awarded to a particular group, the minimum market share depends on the level of significance and on the variability in the size of the contracts awarded.

VI. DISPARITY ANALYSIS OF CONSTRUCTION CONTRACTS

Construction contracts account for the largest share of SFUSD expenditures made to outside contractors, vendors, and consultants. From fiscal year 1987-88 through fiscal year 1989-90, SFUSD spent nearly $50 million on construction and facilities maintenance contracts. An additional $2.5 million was spent on construction-related professional services contracts. Because construction contracting tends to dominate contracting in other trade categories, it is often the focus of MBE/WBE contracting preference programs.

DATA COLLECTION PROCESS

In order to build the most comprehensive and accurate database for purposes of analyzing utilization of MBE/WBEs by the School District, the consultant team worked closely with the Office of Facilities Planning & Construction to understand their filing system and the characteristics of the contracting data. A detailed data collection plan was drawn up for all construction contracts, and a data collection team was sent to the site to extract the information from the files.

Construction projects over $15,000 are formally bid, and their contract files may contain bid packages which list all successful and unsuccessful bidders on the project. These bid packages were used to compile lists of contractors that are willing and able to perform School District construction projects as a means of measuring availability. The contract files were used to measure utilization of minority and women contractors. Data collectors were able to locate 101 large construction contract files with bid packages and 230 contract files without bid packages. Eight other files for large construction projects, totaling $317,000, were not found.

Contract documents for construction contracts under $15,000, which are bid informally, contain all relevant data for these projects.[1] A total of 531 such contracts were awarded during fiscal years 1987-88, 1988-89 and 1989-90, and data were extracted from each of these contract files.

RELEVANT MARKET AREA

The relevant market is defined in terms of political boundaries to facilitate the use of data from a variety of sources for the analysis of disparities between utilization and availability of minority contractors. The following criteria were used to decide which counties to include in the relevant market area for construction contracting for SFUSD:

- Generation of a significant percentage of contract *bids*, from primes and/or subcontractors;
- Generation of a significant percentage of contract dollar *awards* to primes and/or subcontractors; and
- Geographic *proximity* to the City of San Francisco.

Tables VI-1 and VI-2 show the geographic contracting pattern for construction for SFUSD in fiscal years 1987-88 through 1989-90. As may be seen, for prime contractors the same four counties account for the highest percentages of contract awards and dollar awards, but the ordering among the four counties is substantially different for contracts than it is for dollars. For instance, Alameda County had the second highest percentage of contracts awarded, but it placed fourth in terms of dollars awarded. These same four counties account for the highest percentage of contracts and dollar awards for subcontractors.

Analysis of the bid packages for SFUSD construction projects reveals that a number of firms that had served as prime contractors on particular projects had also served as subcontractors on other projects. Consequently, no obvious distinction could be made between the market for prime contractors and the market

[1] Bids for these projects are solicited directly from the awarding department, rather than through public notices.

for subcontractors within the construction industry. The relevant market area identified for one group of necessity must be chosen as the relevant market area for the other group.

Based on the criteria listed above, it was determined that the relevant market area for construction contracting for SFUSD includes the counties of San Francisco, San Mateo, Alameda, and Marin.

AVAILABILITY

For purposes of this report, availability of construction contractors was measured by means of the bid lists maintained by the School District for fiscal years 1988, 1989, and 1990. The availability measure for firms willing and able to perform public construction projects is restricted to firms located within the four counties that comprise the relevant market for SFUSD. Census figures were not used for measuring availability for construction because the full range of data required to calculate availability projections were not published at sufficiently fine levels of detail.

MBEs and WBEs are measured as the sum of the successful and unsuccessful minority and women bidders on contracts with the School District, plus those firms listed in the 1990 MBE/WBE Directory for the San Francisco Human Rights Commission. Firms appearing in both sources were counted only once. For majority firms, availability is measured by the successful and unsuccessful bidders. Thus, for both minority and majority firms, availability is taken to include only those firms which have taken actions to show that they are interested in bidding on public contracts within the City of San Francisco.

Because the same firms sometimes act as prime contractors and as subcontractors on different contracts, it is not generally possible to divide availability into these two distinct components. Therefore, the full set of construction firms is used to measure availability for both prime contractors and subcontractors.

The final availability measures for minority and women construction contractors appear in Table VI-3. Asian contractors make up 20.57 percent of the market, constituting the single largest minority group among construction contractors that had demonstrated ability and interest in performing SFUSD contracts. African American and Hispanic contractors account for 16.5 and 15.6 percent, respectively, of the total available firms. Native American contractors make up less than 1 percent of the total.[2] The market share held by female contractors is just under 11 percent of the total.

Minimum Market Share Required for Meaningful Statistical Results

Table VI-4 indicates the minimum market share, or availability measurement, required for any minority group before meaningful statistical results are possible, given the total number of construction contracts awarded and the distribution of award sizes. Larger market shares are required for the statistical tests based on dollar awards because of the variability in contract sizes.

Native American construction contractors comprise too small a proportion of the relevant market to permit meaningful tests of disparity between utilization and availability for this group, either in terms of number of contracts or number of dollars awarded, for any of the construction contract categories. Only Asian contractors maintained a sufficiently large market share to permit statistical tests of disparity for dollar awards on construction contracts over $15,000. The market share held by female construction contractors is too small to yield meaningful statistical tests based on dollar awards for prime construction contracts over $15,000, for subcontracts, and for earthquake relief contracts.

In each of these cases, it is impossible for the test to reveal a statistically significant disparity. Rather, the decision as to whether a remedial program should include these groups must be based on alternative forms

[2] Native American contractors are not included in the 1990 MBE/WBE Directory for the San Francisco Human Rights Commission. Therefore, the availability percentage for Native American contractors could be understated.

of information such as historical records or the narrative/historical analysis presented in Chapter IV of this report.

UTILIZATION AND DISPARITY

The purpose of the disparity analysis is to determine whether contract awards to MBE/WBEs were statistically significantly less than the amount that would have been expected if the contracts had been awarded on the basis of availability. Data for fiscal years 1987-88 through 1989-90 were combined for purposes of the disparity analysis to provide a more consistent picture of utilization practices in recent years. Imbalances in contracting that can happen by chance in any one year are smoothed by aggregating data for more than one fiscal year and performing the analysis on the aggregated data.[3]

Data on disparity in construction contracting are divided on the basis of the decision process used to select winning contractors. Prime construction contracts over $15,000 are analyzed separately from prime contracts under $15,000 because the larger contracts require formal bid procedures. Decisions regarding subcontracting are made by prime contractors, not by SFUSD directly. Hence, subcontracts for construction projects are analyzed as a separate group. Construction contracts for repair of damage caused by the October 1989 earthquake were awarded on an emergency basis; hence, they did not require formal bid procedures. All earthquake relief contracts are analyzed as a separate group of contracts, regardless of the size of the project.

Construction Projects Over $15,000

According to state law, all construction projects over $15,000 must be publicly advertised for at least two consecutive weeks in a newspaper of general circulation. Consequently, race or gender should not preclude a contractor from being aware that bids on a construction contract over $15,000 are being accepted. On the other hand, public notice does not necessarily guarantee that the award of the contract will be made independent of race or gender of the contractor.

[3] Utilization and disparity tables broken down by fiscal appear in Volume Three, Appendix to Disparity Analysis of Construction Contracting.

Utilization

Utilization figures for construction projects over $15,000 during the three years under study appear in Table VI-5.[4] Minorities of all ethnicities received 42 out of 131 contracts over $15,000, or 32 percent of the total contracts awarded. In terms of dollars, minority contractors received 42.5 percent of the awards. These figures indicate that formally bid construction contracts won by minority firms were, on average, larger in size than those won by majority contractors.

The general pattern of utilization for minority contracts as a group holds true for African American and Hispanic contractors. That is, the percentage of contract dollars won by each of these groups is substantially larger than the percentage of contracts won, indicating that the awards won by African American and Hispanic contractors were of larger average size than was true for majority contractors. In contrast, Asian contractors won 19 percent of the construction contracts for projects over $15,000, but they received only 5.5 percent of the award dollars. Native American contractors received no construction contracts over the three-year period.

Female contractors won nearly 14 percent of the total number of contracts over $15,000 during fiscal years 1988 through 1990. However, the awards for these contracts amounted to just over 5 percent of the total construction contract dollars for projects over $15,000.

Disparity

Statistical tests of disparity are used to determine whether chance alone could account for the difference between utilization and availability for a particular group of contractors. The difference between utilization and availability, or the disparity, is compared to the degree of variability in the disparity measurement. If this comparison reveals that the disparity is large,

[4] Five construction contracts over $15,000 were omitted from the database because of missing data that would have been required to complete the analysis.

even when compared to its measurement of variability, then the disparity is said to be statistically significant. Statistical significance means that there is less than a 5 percent chance that the observed disparity could have been so large if the selection of contractors had been based on their availability, independent of any other factors.

An example will help to explain the information contained in the disparity tables. Consider the case of African Americans in Table VI-6. African American contractors held 16.49 percent of the relevant market for construction contracts, so the disparity test can yield meaningful results for this ethnic group. Over the three year period 1987-88 through 1989-90, African American MBEs received slightly less than 4 percent of prime construction contracts over $15,000. Based on their availability, they would have been expected to win 16.49 percent of the 131 total contracts, producing a shortfall in awards of more than 12 percentage points. This difference is statistically significant at the 5 percent level because the index of statistical significance exceeds 1.96 in magnitude. That is, there is less than a 5 percent chance that such a large disparity would have been observed if the awards were made solely on the basis of availability of African American construction contractors within the relevant market area.

The disparity index in Table VI-6 is another measurement of shortfall in awards to MBE/WBEs. The disparity index is the ratio of the percent total contracts awarded to percent expected contracts. The disparity index of 23.15 percent for African American prime contractors indicates that African American MBEs received approximately one-quarter of the number of contracts that would have been expected, based on their availability in the market. A disparity index of 100 percent would indicate that actual contract awards equalled expected contract awards.

In comparing the utilization figures for construction contracts over $15,000 with the availability figures derived from the bid lists, a statistically significant disparity is found for minorities as a group, and for African American and Hispanic contractors individually. In other words, if selection of contractors had been based solely on availability, there would have been less than a 5 percent chance of observing such a large discrepancy between utilization

and availability for these groups. Asian contractors received fewer contracts than would have been expected based on their availability, but the disparity was not large enough to be statistically significant. In contrast, female contractors received more than their expected number of contract awards, based on their availability. The market share held by Native American construction contractors was too small to allow meaningful statistical tests.

The disparity analysis based on contract dollars awarded for construction projects over $15,000, displayed in Table VI-7, was informative only for Asian contractors because of the large market share required for meaningful statistical results. Due to the small average size of contracts won by Asian contractors, this group did receive a much smaller proportion of total contract dollars than would have been anticipated, based on their availability. Nonetheless, because of the variability in contract sizes, the disparity in dollar awards experienced by Asian contractors could be explained by chance occurrence.

Although female contractors won more than the expected number of construction contracts, the average dollar size of the awards was sufficiently small to produce a disparity between actual dollars awarded and the expected dollar awards. However, the market share held by female construction contractors was not large enough to allow meaningful statistical results based on dollar awards.

Construction Projects Under $15,000

An informal bid procedure is used to select contractors for SFUSD construction contracts under $15,000. The project manager solicits bids from two to three contractors and recommends that the project be awarded to the lowest responsible bidder. Because no public notice is made of smaller construction contracts, receipt of bids from ethnic minority and female contractors depends on the efforts extended by School District employees to include these contractors in their bid solicitations.

Utilization

The utilization figures for construction contracts under $15,000 are found in Table VI-8.[5] Award patterns experienced by ethnic minority contractors for the smaller contracts are quite different from those observed for the larger contracts. Within the ethnic groups, African American and Hispanic contractors received slightly smaller contract awards, while Asian contractors, on average, received somewhat larger contracts. Moreover, the utilization percentages for minority contractors is substantially smaller than it was for construction contracts over $15,000. The percentage of minority contracts and minority award dollars were roughly comparable, indicating that there was no significant difference between the average size of contract awarded to minority and majority firms.

Unlike the ethnic minorities, female contractors experienced similar results for contracts under $15,000 as they did for the larger construction contracts. They received only 1.97 percent of the contracts under $15,000 and only 0.5 percent of the award dollars.

Disparity

Disparity measurements for contract awards under $15,000 are shown in Table VI-9. Actual contract awards for small construction projects were lower for all ethnic minority contractors and for women contractors than would have been expected, based on their availability within the relevant market. With the exception of Native Americans, the market shares held by all groups were large enough to allow for meaningful statistical tests of the disparity in contract awards. The shortfall of utilization relative to availability was strongly significant for minorities overall, for Asian and Hispanic contractors, and for women. Utilization for African American contractors fell short of their availability, but the difference was not statistically significant.

[5] Nine construction contracts under $15,000 were omitted from the database because of missing data that would have been required to complete the analysis.

The results of tests based on disparity in dollar amounts were statistically significant for minorities as a group and for Hispanic contractors, as can be seen in Table VI-10. The disparity was also strong for women. As was true for the number of contracts awarded, the dollar amounts awarded to African American contractors fell short of their expected awards, but the difference was not large enough to be statistically significant. Similarly, the shortfall in contract dollars awarded to Asian contractors, although quite large, was not statistically significant. Once again, the market share held by Native Americans was too small to permit meaningful statistical conclusions for construction contracts under $15,000.

Subcontracts for Construction Projects

Subcontracting is often an important vehicle for affording contracting opportunities for smaller firms, permitting them to establish a track record. Subcontract awards accounted for more than 20 percent of the total award dollars for construction projects over $15,000. Total subcontract awards over the three-year period were nine times larger than the total amount awarded for projects under $15,000. Since many minority- and woman-owned firms are small, subcontracting often provides a means through which minority and women contractors can expand their firms to the point where they are able to bid on larger projects.

Utilization

Subcontractors were used only on SFUSD construction projects over $15,000 during the three years under study. Table VI-11 displays utilization percentages for construction subcontractors for fiscal years 1987-88 through 1989-90.[6] Participation as subcontractors by ethnic minority contractors was quite low. Ethnic minorities won only 30 of 121 subcontracts, or 24.79 percent of the total. In terms of dollar awards, however, they received just over 7 percent of the total subcontract dollars. In other words, the subcontract amounts for ethnic minorities were, on average, substantially smaller than for majority subcontractors. The pattern of winning small subcontracts was observed for each

[6] Thirty-three subcontracts were omitted from the database because of missing data that would have been required to complete the analysis.

of the ethnic groups identified in this study. Female contractors, on the other hand, received just over 12 percent of both the total number of subcontracts and the total subcontract dollars.

Disparity

Statistical tests for disparity among subcontractors appear in Tables VI-12 and VI-13. Ethnic minorities working as subcontractors on School District construction projects over $15,000 suffered statistically significant disparities between utilization rates and availability, based both on subcontract awards and dollar awards. These results held for African American and Asian subcontractors. Statistically significant disparities were observed for Hispanic subcontractors in terms of the number of contracts won, but not in terms of award dollars.

Utilization of women and Native American subcontractors exceeded expectations based on their availability within the relevant market. This result held for both number of contracts and dollar awards.

Earthquake Relief Projects

The October 1989 earthquake caused nearly one million dollars in damage to SFUSD school buildings. Contracts to repair this damage were awarded primarily on an emergency basis, which means that the formal bid procedures were not required for larger contracts. Many of the contracts were awarded as sole source contracts. For other repair projects, School District personnel solicited bids from known contractors.

Utilization

As shown in Table VI-14, a total of 71 construction projects were awarded for repair of earthquake damage.[7] African American, Asian, and Hispanic contractors shared in these awards, receiving 33.80 percent of the contracts and 36.76 percent of the contract dollars. Only one female contractor won a contract

[7] Two contracts for earthquake relief projects were omitted from the database because of missing data that would have been required to complete the analysis.

for earthquake repair, but that one contract accounted for 5.63 percent of the total dollars expended on earthquake relief.

Disparity

Ethnic minorities as a group suffered statistically significant disparity in terms of number of contracts awarded to them for earthquake relief construction projects. This can be seen in Table VI-15. Individually, the disparities experienced by Asian and female contractors were statistically significant. Although African American contractors received fewer contracts than their availability might have suggested, the disparity was too small to be statistically significant. Hispanic contractors, on the other hand, received more earthquake relief contracts than would have been expected, based on their share of the relevant market.

A comparison of the results in Table VI-15 with those in Table VI-16 reveals that Asian contractors won relatively few contracts for earthquake relief projects, but the contracts that they won were quite large. Total dollar awards won by Asian contractors for earthquake relief projects exceeded the amount that would have been expected, based on their availability. The large variation in contract sizes for earthquake relief construction projects precluded statistically significant results in terms of dollar awards for all other minority groups.

CONCLUSIONS

Asian and female prime contractors appear to have received approximately their proportionate share of SFUSD construction contracts over $15,000 in the last three fiscal years. In contrast, African American and Hispanic contractors experienced statistically significant shortfalls in terms of contracts awarded during the same time period. This result also held for ethnic minorities as a group. In terms of dollars awarded on large construction contracts, Hispanic contractors were the only minority group whose actual dollar awards exceeded their expected awards, based on their availability in the relevant market area. However, the size of the market share required for meaningful statistical results precluded informative statistics for all but Asian contractors.

Minority prime contractors suffered striking disparities between actual and expected awards on construction contracts under $15,000, which are not publicly advertised. Statistically significant shortfalls in terms of both number of contracts and dollars awarded were found for Hispanics and for minorities as a group. The same was true for female contractors. The disparity in terms of contract awards observed for Asian contractors was also statistically significant.

Subcontracting on SFUSD construction contracts over $15,000 could serve as an important vehicle for increasing the participation of ethnic minority and women contractors. Female contractors appear to have been able to win subcontract awards on these projects; their utilization in terms of number of subcontracts and dollars awarded exceeded their availability over the past three fiscal years. Ethnic minorities, on the other hand, experienced statistically significant shortfalls both in terms of subcontracts awarded and in terms of dollar awards. This result held for African American and Asian subcontractors. The disparity in number of subcontracts awarded was significant for Hispanics.

The earthquake relief projects awarded in fiscal 1989-90 afford a glimpse of contracting practices used in emergency circumstances. Statistically significant disparities in terms of number of contracts awarded were observed for African American, Asian, and female contractors. The large variation in contract sizes, however, obscured statistically significant disparities for dollar awards for any minority group.

TABLE VI-1

RELEVANT MARKET AREA CALCULATIONS
FOR CONSTRUCTION CONTRACTORS

COUNTY	TOTAL CONTRACTS	% CONTRACTS	CUMULATIVE %
SAN FRANCISCO	233	57.82%	57.82%
ALAMEDA	56	13.90%	71.71%
SAN MATEO	52	12.90%	84.62%
MARIN	13	3.23%	87.84%
TOTAL	403		

COUNTY	TOTAL DOLLARS	% DOLLARS	CUMULATIVE %
SAN FRANCISCO	$28,210,936	54.14%	54.14%
ALAMEDA	$3,726,866	7.15%	61.29%
SAN MATEO	$9,845,846	18.89%	80.18%
MARIN	$7,064,337	13.56%	93.74%
TOTAL	$52,109,598		

TABLE VI.2

RELEVANT MARKET AREA CALCULATIONS
FOR CONSTRUCTION
SUBCONTRACTORS

COUNTY	TOTAL CONTRACTS	% CONTRACTS	CUMULATIVE %
SAN FRANCISCO	92	54.12%	54.12%
ALAMEDA	27	15.88%	70.00%
SAN MATEO	26	15.29%	85.29%
MARIN	8	4.71%	90.00%
TOTAL	170		

COUNTY	TOTAL DOLLARS	% DOLLARS	CUMULATIVE %
SAN FRANCISCO	$9,719,747	74.63%	74.63%
ALAMEDA	$1,595,771	12.25%	86.88%
SAN MATEO	$439,830	3.38%	90.26%
MARIN	$445,112	3.42%	93.68%
TOTAL	$13,024,005		

Table VI-3
San Francisco Unified School District

AVAILIBILITY FOR CONSTRUCTION CONTRACTING
Fiscal 1987-88 through 1989-90

Relevant Market Area: San Francisco, Alameda, San Mateo, and Marin Counties

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# of firms	93	116	88	1	299	265	61	503	564
% Market Share	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%

TABLE VI-4
SAN FRANCISCO UNIFIED SCHOOL DISTRICT

MINIMUM MARKET SHARE REQUIRED
FOR MEANINGFUL STATISTICAL RESULTS
FOR CONSTRUCTION CONTRACTS

Fiscal Year	Type of Contract	Minimum Market Share For Tests Based on Number of Contracts	Minimum Market Share For Tests Based on Award Dollars
1987-88 thru 1989-90	Prime - Over $15,000	2.85%	18.02%
1987-88 thru 1989-90	Prime - Under $15,000	1.86%	2.93%
1987-88 thru 1989-90	Subcontracts	3.08%	12.68%
1987-88 thru 1989-90	Earthquake Relief	5.13%	15.04%

Table VI-5
San Francisco Unified School District

UTILIZATION FOR PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	5	25	12	0	42	89	18	113	131
% Contracts	3.82%	19.08%	9.16%	0.00%	32.06%	67.94%	13.74%	86.26%	100.00%
Contract Dollars	$5,748,441	$2,591,936	$11,723,520	$0	$20,063,897	$27,142,207	$2,521,444	$44,684,659	$47,206,104
% Dollars	12.18%	5.49%	24.83%	0.00%	42.50%	57.50%	5.34%	94.66%	100.00%

Table VI-6
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1987-88 through 1989-90
Total Number of Contracts = 131

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	3.82%	19.08%	9.16%	0.00%	32.06%	67.94%	13.74%	86.26%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-12.67%	-1.48%	-6.44%	-0.18%	-20.95%	20.95%	2.92%	-2.92%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-3.91	-0.42	-2.03	-0.48	-4.81	4.81	1.08	-1.08	---
DISPARITY INDEX	23.15%	92.79%	58.71%	0.00%	60.48%	144.59%	127.04%	96.72%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	5	25	12	0	42	89	18	113	131
EXPECTED NUMBER OF CONTRACTS	22	27	20	0	69	62	14	117	131
DIFFERENCE	-17	-2	-8	0	-27	27	4	-4	0
STANDARD DEVIATION	4.25	4.63	4.15	0.48	5.71	5.71	3.55	3.55	---

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Table VI-7
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1987-88 through 1989-90
Total Number of Contract Dollars = $47,206,103

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	12.18%	5.49%	24.83%	0.00%	42.50%	57.50%	5.34%	94.66%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-4.31%	-15.08%	9.23%	-0.18%	-10.51%	10.51%	-5.47%	5.47%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.49	-1.56	1.06	-0.18	-0.88	0.88	-0.74	0.74	---
DISPARITY INDEX	73.85%	26.70%	159.17%	0.00%	80.17%	122.37%	49.39%	106.14%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$5,748,441	$2,591,936	$11,723,520	$0	$20,063,897	$27,142,207	$2,521,444	$44,684,659	$47,206,103
EXPECTED CONTRACT DOLLARS	$7,783,985	$9,709,057	$7,365,491	$83,699	$25,025,930	$22,180,173	$5,105,625	$42,100,478	$47,206,103
DIFFERENCE	($2,035,544)	($7,117,121)	$4,358,029	($83,699)	($4,962,033)	$4,962,034	($2,584,181)	$2,584,181	($0)
STANDARD DEVIATION	4,190,075	4,563,918	4,097,460	475,033	5,635,447	5,635,447	3,506,863	3,506,863	---

Square root of sum of squared contract amounts = $11,291,431

Table VI-8
San Francisco Unified School District

UTILIZATION FOR PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	31	19	6	0	56	147	4	199	203
% Contracts	15.27%	9.36%	2.96%	0.00%	27.59%	72.41%	1.97%	98.03%	100.00%
Contract Dollars	$146,547	$144,023	$15,928	$0	$306,498	$731,527	$5,140	$1,032,885	$1,038,025
% Dollars	14.12%	13.87%	1.53%	0.00%	29.53%	70.47%	0.50%	99.50%	100.00%

Table VI-9
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1987-88 through 1989-90
Total Number of Contracts = 203

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	15.27%	9.36%	2.96%	0.00%	27.59%	72.41%	1.97%	98.03%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-1.22%	-11.21%	-12.65%	-0.18%	-25.43%	25.43%	-8.85%	8.85%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.47	-3.95	-4.97	-0.60	-7.26	7.26	-4.06	4.06	---
DISPARITY INDEX	92.61%	45.51%	18.94%	0.00%	52.04%	154.12%	18.22%	109.92%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	31	19	6	0	56	147	4	199	203
EXPECTED NUMBER OF CONTRACTS	33	42	32	0	108	95	22	181	203
DIFFERENCE	-2	-23	-26	0	-52	52	-18	18	0
STANDARD DEVIATION	5.29	5.76	5.17	0.60	7.11	7.11	4.43	4.43	

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Table VI-10
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1987-88 through 1989-90
Total Number of Contract Dollars = $1,038,025

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	14.12%	13.87%	1.53%	0.00%	29.53%	70.47%	0.50%	99.50%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-2.37%	-6.69%	-14.07%	-0.18%	-23.49%	23.49%	-10.32%	10.32%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.72	-1.87	-4.37	-0.48	-5.31	5.31	-3.75	3.75	
DISPARITY INDEX	85.62%	67.46%	9.83%	0.00%	55.70%	149.99%	4.58%	111.57%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$146,547	$144,023	$15,928	$0	$306,498	$731,527	$5,140	$1,032,885	$1,038,025
EXPECTED CONTRACT DOLLARS	$171,164	$213,494	$161,961	$1,840	$550,300	$487,724	$112,269	$925,756	$1,038,025
DIFFERENCE	($24,617)	($69,471)	($146,033)	($1,840)	($243,803)	$243,803	($107,129)	$107,129	$0
STANDARD DEVIATION	34,155	37,203	33,400	3,872	45,937	45,937	28,586	28,586	

Square root of sum of squared contract amounts = $92,042

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Table VI-11
San Francisco Unified School District

UTILIZATION FOR CONSTRUCTION SUBCONTRACTS OVER $15,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	4	13	11	2	30	91	15	106	121
% Contracts	3.31%	10.74%	9.09%	1.65%	24.79%	75.21%	12.40%	87.60%	100.00%
Contract Dollars	$52,500	$329,800	$320,989	$24,500	$727,789	$9,062,367	$1,202,120	$8,588,036	$9,790,156
% Dollars	0.54%	3.37%	3.28%	0.25%	7.43%	92.57%	12.28%	87.72%	100.00%

Table VI-12
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION SUBCONTRACTS
Fiscal 1987-88 through 1989-90
Total Number of Contracts = 121

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	3.31%	10.74%	9.09%	1.65%	24.79%	75.21%	12.40%	87.60%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-13.18%	-9.82%	-6.51%	1.48%	-28.22%	28.22%	1.58%	-1.58%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-3.91	-2.67	-1.97	3.86	-6.22	6.22	0.56	-0.56	---
DISPARITY INDEX	20.05%	52.24%	58.26%	932.23%	46.77%	160.06%	114.62%	98.23%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	4	13	11	2	30	91	15	106	121
EXPECTED NUMBER OF CONTRACTS	20	25	19	0	64	57	13	108	121
DIFFERENCE	-16	-12	-8	2	-34	34	2	-2	0
STANDARD DEVIATION	4.08	4.45	3.99	0.46	5.49	5.49	3.42	3.42	---

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Table VI-13
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION SUBCONTRACTS
Fiscal 1987-88 through 1989-90
Total Number of Contract Dollars = $9,790,156

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.54%	3.37%	3.28%	0.25%	7.43%	92.57%	12.28%	87.72%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-15.95%	-17.20%	-12.32%	0.07%	-45.58%	45.58%	1.46%	-1.46%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.21	-2.19	-1.75	0.09	-4.70	4.70	0.24	-0.24	---
DISPARITY INDEX	3.25%	16.38%	21.01%	141.14%	14.02%	197.01%	113.53%	98.36%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$52,500	$329,800	$320,989	$24,500	$727,789	$9,062,367	$1,202,120	$8,588,036	$9,790,156
EXPECTED CONTRACT DOLLARS	$1,614,334	$2,013,578	$1,527,542	$17,358	$5,190,171	$4,599,985	$1,058,864	$8,731,291	$9,790,156
DIFFERENCE	($1,561,834)	($1,683,778)	($1,206,553)	$7,142	($4,462,382)	$4,462,382	$143,256	($143,256)	($0)
STANDARD DEVIATION	706,448	769,478	690,833	80,091	950,139	950,139	591,258	591,258	---

Square root of sum of squared contract amounts = $1,903,739

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Table VI-14
San Francisco Unified School District

UTILIZATION FOR EARTHQUAKE RELIEF CONSTRUCTION PROJECTS
Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	6	5	13	0	24	47	1	70	71
% Contracts	8.45%	7.04%	18.31%	0.00%	33.80%	66.20%	1.41%	98.59%	100.00%
Contract Dollars	$56,254	$194,001	$94,342	$0	$344,597	$592,944	$52,781	$884,760	$937,541
% Dollars	6.00%	20.69%	10.06%	0.00%	36.76%	63.24%	5.63%	94.37%	100.00%

Table VI-15
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
TOTAL EARTHQUAKE RELIEF CONSTRUCTION PROJECTS
Fiscal 1989-90
Total Number of Contracts = 71

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	8.45%	7.04%	18.31%	0.00%	33.80%	66.20%	1.41%	98.59%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-8.04%	-13.53%	2.71%	-0.18%	-19.21%	19.21%	-9.41%	9.41%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.83	-2.82	0.63	-0.36	-3.24	3.24	-2.55	2.55	-
DISPARITY INDEX	51.25%	34.24%	117.35%	0.00%	63.76%	140.89%	13.02%	110.55%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	6	5	13	0	24	47	1	70	71
EXPECTED NUMBER OF CONTRACTS	12	15	11	0	38	33	8	63	71
DIFFERENCE	-6	-10	2	0	-14	14	-7	7	0
STANDARD DEVIATION	3.13	3.41	3.06	0.35	4.21	4.21	2.62	2.62	-

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Table VI 16
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
TOTAL EARTHQUAKE RELIEF CONSTRUCTION PROJECTS
Fiscal 1989-90
Total Number of Contract Dollars = $937,541

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	6.00%	20.69%	10.06%	0.00%	36.76%	63.24%	5.63%	94.37%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-10.49%	0.13%	-5.54%	-0.18%	-16.26%	16.26%	-5.19%	5.19%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.32	0.01	-0.71	-0.20	-1.52	1.52	-0.78	0.78	
DISPARITY INDEX	36.39%	100.61%	64.49%	0.00%	69.33%	134.60%	52.05%	105.81%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$56,254	$194,001	$94,342	$0	$344,597	$592,944	$52,781	$884,760	$937,541
EXPECTED CONTRACT DOLLARS	$154,594	$192,828	$146,283	$1,662	$497,030	$440,511	$101,401	$836,140	$937,541
DIFFERENCE	($98,340)	$1,173	($51,941)	($1,662)	($152,433)	$152,433	($48,620)	$48,620	($0)
STANDARD DEVIATION	74,680	81,343	73,029	8,467	100,441	100,441	62,503	62,503	

Square root of sum of squared contract amounts = $201,248

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VII. DISPARITY ANALYSIS OF CONSTRUCTION-RELATED PROFESSIONAL SERVICES CONTRACTS

The major component of construction-related professional services contracts is made up of contracts awarded to architects and engineers. Also included are contracts for real estate appraisers, soil and other testers, and management consultants. These contracts are awarded by the Design Group within the Office of Facilities Planning and Construction.

DATA COLLECTION PROCESS

Data pertaining to construction-related professional services contracts were collected in conjunction with the construction contract data. Whenever possible, bid packages were used to compile lists of successful and unsuccessful bidders for use in measuring availability. Utilization information was extracted from the contract files themselves.

Formal bid procedures are not required for contracts for professional services. Instead, the decision to use a formal process to award a contract for construction-related professional services is left to the discretion of the Design Group. For that reason, all contracts for construction-related professional services are analyzed in one category, without regard to the size of the contract.

RELEVANT MARKET AREA

The relevant market area for SFUSD construction-related professional services contracts includes the counties of San Francisco, San Mateo, Alameda, Contra Costa, and Marin. This encompasses the same geographic area designated as the relevant market area for construction contracting, in addition to Contra Costa County. Table VII-1 displays the cumulative percentages of construction-related professional services contracts and contract dollars awarded to

contractors and consultants in each of the counties that comprise the relevant market area.

AVAILABILITY

Bid lists of successful and unsuccessful bidders were used to measure availability for construction-related professional services contracts. Names from the bid lists were supplemented with names of firms taken from the San Francisco Human Rights Commission MBE/WBE Directory, counting duplicates only once. Results of the availability analysis are displayed in Table VII-2.

Ethnic minorities maintain a combined market share of 59.38 percent of the relevant market for construction-related professional services. Asians lead all other ethnic groups with a share of 37.85 percent of the market. African Americans hold the second largest share, at 15.08 percent. Female contractors of all ethnicities comprise 37.85 percent of the total market for construction-related professional services contracts.

Minimum Market Share Required for Meaningful Statistical Results

Based on the number of contracts awarded over the three fiscal years under study, a minimum market share of 3.56 percent was needed to obtain meaningful information from statistical tests of disparity between utilization and availability. For tests of disparity based on dollar awards, a minimum market share of 8.61 percent was required before the statistical tests can yield useful information. These figures appear in Table VII-3.

UTILIZATION

Within the field of construction-related professional services contracts, African American, Asian, and Hispanic contractors all received contract awards that were, on average, larger than those received by majority contractors.[1]

[1] Seven construction-related professional services contracts were omitted from the database because of missing data that would have been required to complete the analysis.

Asians led the other ethnic minority groups with 27.88 percent of the contracts and 34.80 percent of the contract dollars. African American contractors followed with 4.81 percent of the construction-related professional services contracts and 6.28 percent of the dollar awards.

Female contractors won only eight of 104 construction-related professional services contracts. These eight contracts accounted for 7.69 percent of the total contracts and 11.04 percent of the contract dollars, indicating that the average size of contract won by women was somewhat larger than the average size of contract won by male contractors.

DISPARITY

African American, Asian, and Hispanic contractors all suffered shortfalls in awards of construction-related professional services contracts. That is, the actual number of contracts won by each group was smaller than would have been anticipated, based on the availability measurements. However, as seen in Table VII-5, only the disparities observed for African American and Asian contractors were statistically significant for tests based on the number of contracts awarded. Due to the relatively large average size of contract won by ethnic minority contractors, none of the disparities experienced by any ethnic group was statistically significant. This result is displayed in Table VII-6.

Very large disparities were observed for female contractors. They won only 7.69 percent of the contracts and 11.04 percent of the contract dollars for construction-related professional services contracts, compared to their market share of 37.85 percent. The disparities were very strongly statistically significant, both in terms of number of contracts and in terms of contract dollars won.

CONCLUSIONS

Female contractors were the only group of contractors and consultants for whom statistically significant disparities were observed in the construction-related professional services data for both number of contracts and dollar

awards. No ethnic group achieved as many contract awards as would have been expected, based on their availability. The disparities were statistically significant for African Americans, Asians, and minorities overall. However, the dollar awards won by ethnic minorities were sufficiently large so that no statistically significant shortfall in terms of dollars were observed for any ethnic group.

Table VII-1
San Francisco Unified School District

RELEVANT MARKET CALCULATIONS
FOR CONSTRUCTION RELATED PROFESSIONAL SERVICES

CONTRACTS

COUNTY	TOTAL CONTRACTS	% CONTRACTS	CUMULATIVE %
SAN FRANCISCO	79	65.83%	65.83%
ALAMEDA	20	16.67%	82.50%
CONTRA COSTA	8	6.67%	89.17%
MARIN	5	4.17%	93.33%
SAN MATEO	2	1.67%	95.00%
TOTAL CONTRACTS	120		

DOLLARS

COUNTY	TOTAL DOLLARS	% DOLLARS	CUMULATIVE %
SAN FRANCISCO	$2,201,571	61.36%	61.36%
ALAMEDA	$376,781	10.50%	71.87%
CONTRA COSTA	$225,338	6.28%	78.15%
MARIN	$89,913	2.51%	80.65%
SAN MATEO	$85,800	2.39%	83.04%
TOTAL DOLLARS	$3,587,757		

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Table VII-2
San Francisco Unified School District

AVAILIBILITY FOR CONSTRUCTION RELATED PROFESSIONAL SERVICES CONTRACTORS
Fiscal 1987-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	49	123	21	0	193	132	123	202	325
% Contracts	15.08%	37.85%	6.46%	0.00%	59.38%	40.62%	37.85%	62.15%	100.00%

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TABLE VII-3
San Francisco Unified School District

MINIMUM MARKET SHARE REQUIRED
FOR MEANINGFUL STATISTICAL RESULTS
FOR CONSTRUCTION-RELATED PROFESSIONAL SERVICES CONTRACTS

Fiscal Year	Type of Contract	Minimum Market Share For Tests Based on Number of Contracts	Minimum Market Share For Tests Based on Award Dollars
1987-88 thru 1989-90	All Contracts	3.56%	8.61%

Table VII-4
San Francisco Unified School District

UTILIZATION FOR CONSTRUCTION-RELATED PROFESSIONAL SERVICES CONTRACTORS
FISCAL YEAR 87-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	5	29	3	0	37	67	8	96	104
% Contracts	4.81%	27.88%	2.88%	0.00%	35.58%	64.42%	7.69%	92.31%	100.00%
Contract Dollars	$178,503	$988,696	$146,243	$0	$1,313,442	$1,527,611	$313,692	$2,527,361	$2,841,053
% Dollars	6.28%	34.80%	5.15%	0.00%	46.23%	53.77%	11.04%	88.96%	100.00%

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Table VII-5
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION-RELATED PROFESSIONAL SERVICES CONTRACTORS
FISCAL 88-90
Total Number of Contracts = 104

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	4.81%	27.88%	2.88%	0.00%	35.58%	64.42%	7.69%	92.31%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	15.08%	37.85%	6.46%	0.00%	59.38%	40.62%	37.85%	62.15%	100.00%
% ACTUAL MINUS % EXPECTED	-10.27%	-9.96%	-3.58%	0.00%	-23.81%	23.81%	-30.15%	30.15%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.93	-2.09	-1.48	---	-4.94	4.94	-6.34	6.34	---
DISPARITY INDEX	31.89%	73.68%	44.64%	---	59.91%	158.62%	20.33%	148.51%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	5	29	3	0	37	67	8	96	104
EXPECTED NUMBER OF CONTRACTS	16	39	7	0	62	42	39	65	104
DIFFERENCE	-11	-10	-4	0	-25	25	-31	31	0
STANDARD DEVIATION	3.65	4.95	2.51	0.00	5.01	5.01	4.95	4.95	---

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Table VII-6
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION-RELATED PROFESSIONAL SERVICES CONTRACTS
FISCAL 88-90
Total Number of Contract Dollars = $2,841,053

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	6.28%	34.80%	5.15%	0.00%	46.23%	53.77%	11.04%	88.96%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	15.08%	37.85%	6.46%	0.00%	59.38%	40.62%	37.85%	62.15%	100.00%
% ACTUAL MINUS % EXPECTED	-8.79%	-3.05%	-1.31%	0.00%	-13.15%	13.15%	-26.80%	26.80%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.57	-0.40	-0.34	---	-1.71	1.71	-3.53	3.53	---
DISPARITY INDEX	41.67%	91.95%	79.66%	---	77.85%	132.39%	29.17%	143.13%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$178,503	$988,696	$146,243	$0	$1,313,442	$1,527,611	$313,692	$2,527,361	$2,841,053
EXPECTED CONTRACT DOLLARS	$428,343	$1,075,229	$183,576	$0	$1,687,148	$1,153,904	$1,075,229	$1,765,823	$2,841,053
DIFFERENCE	($249,840)	($86,533)	($37,333)	$0	($373,706)	$373,706	($761,537)	$761,537	$0
STANDARD DEVIATION	159,170	215,743	109,359	0	218,461	218,461	215,743	215,743	

Square root of sum of squared contract amounts = $444,828

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VIII. DISPARITY ANALYSIS OF PURCHASING CONTRACTS

Contracts awarded through the Purchasing Department of SFUSD fall into four groups for the purposes of analysis: printing and publishing, equipment and supplies, general services, and food services. Book purchases are analyzed separately because purchasing decisions are governed by guidelines imposed by the SFUSD Curriculum Committee. Specific books must be purchased without regard to the ethnicity or gender of the publisher. Although contract awards for both equipment and supplies and for general services are determined through similar decision processes, availability measurements based on SIC classifications require that the two set of contracts be analyzed separately. Finally, the Food Services Division is part of the Purchasing Department, but it operates independently; consequently, the disparity analysis for food services contracts is treated separately.

DATA COLLECTION PROCESS

Tapes of transactions completed by the Purchasing Department, along with tapes containing information on the vendors who had done business with Purchasing, were obtained from Computer Services of SFUSD for use in analyzing potential disparities between the utilization and availability of minority vendors. Records of all warrants written in fiscal years 1987-88, 1988-89, and 1989-90 for pertinent types of transactions were compiled. Object codes used to identify transactions involving contracts for books, equipment and supplies, services, and food services are listed below within the appropriate subsections.

Since warrants represent payments on particular contracts, rather than total awards for each contract, attempts were made to aggregate the total payments made on each contract. To do this, all payments with matching cross-reference numbers were summed.

The cross-reference number on the transactions tape identifies either the requisition, the purchase order, or the encumbrance request for which the payment was made. The first occurrence of a warrant paid for either a purchase order or an encumbrance request uses the requisition number as the cross-reference number; subsequent payments made on that same contract use the purchase order number or encumbrance request number as the cross-reference number. To the extent possible, multiple payments made for the same purchase order or encumbrance request were summed; however, it was not possible to match a requisition number with its corresponding purchase order or encumbrance request number. Consequently, for the purposes of the disparity analysis, the number of contracts awarded is higher than the actual number, and the average size of the contracts is smaller.

The practical effect of the inability to aggregate all payments made for every purchase order or encumbrance request is to increase the level of statistical significance for the tests of disparity in contracting with women and ethnic minority vendors.

Within each trade category, data were aggregated for fiscal years 1987-88, 1988-89, and 1989-90.[1] Statistical irregularities that might skew results for any one year can be smoothed by aggregating the data across several years. Construction contracts awarded for earthquake relief projects, however, were treated separately as a special case.

PRINTING AND PUBLISHING

Textbooks are purchased by SFUSD directly from major publishers across the country. Often the selection for books covering particular subject matter at various levels of development is made by the Curriculum Committee of SFUSD rather than by the Purchasing Department. Consequently, the Purchasing Department does not have discretion to consider race or gender of the publisher in making a

[1] See Volume Three, Appendix to Disparity Analysis of Purchasing Contracts, for utilization and disparity results within each trade category broken down by fiscal year.

sizeable proportion of SFUSD expenditures on textbooks. Contracts in excess of $8,000, including those for book purchases, must be approved by the Board of Education.

California state law does not require that orders for book purchases be publicly advertised or that estimates be taken before granting a contract for books. Consequently, the decision process used to select the winning publisher is the same, regardless of the size of the book order. For that reason, all orders for book purchases are analyzed as one group of contracts.

The object codes used to identify transactions involving book purchases are listed on Table VIII-1. Textbooks make up the largest proportion of book expenditures, but library books and books other than textbooks are also included.

Relevant Market Area

Since SFUSD purchases most textbooks from major publishers, the relevant market area for textbook purchases is the United States. Only 37.3 percent of the contracts for book purchases, and 31.33 percent of the dollars spent on textbooks, are awarded to publishers within California. Illinois is the state that accounts for the next largest share of book purchases. Table VIII-2 displays the states that comprise a cumulative total of at least 85 percent of the book purchases and at least 85 percent of the dollars expended by SFUSD on textbooks.

Availability

The availability of printers and publishers in 1989 was projected from numbers published by the U.S. Bureau of the Census in *SMOBE*, *SWOBE*, and *County Business Patterns* from various years.[2] The market shares for ethnic minorities and women were projected to 1989 because that is the midpoint of the years under study. The results of these projections are shown as the availability measurements in Table VIII-3.

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[2] For details of the calculations used to project the availability measurements for all trade categories discussed under Purchasing, see the technical appendix at the end of this chapter.

Ethnic minorities as a group comprise only 5.46 percent of the nationwide printing and publishing market. African Americans and Asians each hold just under 2 percent of the total; Hispanics maintain a slightly smaller share at 1.52 percent of the total market. In contrast, women command more than one-quarter of the entire market for printing and publishing.

Minimum Market Share

Table VIII-4 displays the minimum market share that is necessary to derive useful information from statistical tests of disparity between utilization and availability for ethnic minority or female publishers. Based on the number of contracts for book purchases, a minimum market share of 0.18 percent is required before statistical tests for disparity can be meaningful. Tests based on contract dollars require a minimum market share of 1.23 percent, given the total dollars expended and the distribution of contract sizes. Hence, statistical tests of disparity should provide useful information for all ethnic groups except Native Americans. The tests should also prove useful for female publishers.

Utilization

Although ethnic minorities account for only a small proportion of the total market in printing and publishing, utilization of these firms by SFUSD fell short of their availability over the years fiscal 1987-88 through fiscal 1989-90. Utilization figures are displayed in Table VIII-5.[3]

Only three of more than 2000 contracts for book purchases were awarded to African American publishers. Book orders awarded to Asians and Hispanics were also very low. For each of these minority groups, the percentage of total dollars awarded was even smaller than the percentage of contracts won, indicating that the average size of contract awarded to ethnic minority publishers was

[3] The analysis is based on 2,141, of a total of 2,275, contracts for purchases of textbooks and other books. Data required to complete the analysis were missing for the remaining 134 contracts.

smaller than that awarded to majority firms. Native American publishers received no SFUSD contracts during this time period.

Female publishers received well over one-third of the total SFUSD book orders for fiscal years 1987-88 through 1989-90. In addition, the percentage of dollars awarded to female publishers was in line with the percentage of contracts won, suggesting that there was no noteworthy difference in the size of book order received by female, as opposed to male, publishers.

Disparity

Statistical tests for disparity between utilization and availability of minority publishers appear in Tables VIII-6 and VIII-7. Table VIII-6 contains the tests based on number of contracts awarded; Table VIII-7 displays similar tests based on contract dollars awarded.

Ethnic minorities as a group suffered statistically significant disparity in terms of both the number of contracts won by these firms and in terms of the dollars awarded to them. The shortfall in terms of number of contracts was statistically significant for African Americans, Asians, and Hispanics; Native Americans held too small a share of the market for printing and publishing to allow meaningful conclusions from the statistics. While the percentage of dollars awarded to each of the four ethnic minority groups fell short of their availability, the difference was statistically significant only for African Americans.

Female publishers received a higher proportion of contracts and a higher proportion of contract dollars than would have been expected, based solely on their market share. The disparity index indicates that female publishers received approximately one-third more SFUSD contracts and contract dollars for textbooks than their proportionate share of the publishing market.

EQUIPMENT AND SUPPLIES

Contracts for equipment and supplies are awarded by the Purchasing Department of SFUSD. Contracts in excess of $21,000 require formal bid

procedures, including public notice of bids; smaller contracts for equipment and supplies are awarded through informal processes. All contracts for amounts greater than $8,000 require approval by the Board of Education.

Instructional materials and equipment make up the largest component of the equipment and supplies category. Janitorial supplies, maintenance supplies, and office supplies are also included. Table VIII-8 lists all object codes used to define the category.

Relevant Market Area

The relevant market area for equipment and supplies purchases was determined by examining the utilization records. Over the course of the last three fiscal years, vendors from 44 different states were awarded SFUSD contracts for equipment and supplies.

Table VIII-9 lists the states which account for a cumulative total of 85 percent of the contracts and 85 percent of the contract dollars awarded for equipment and supplies contracts. The top ranking states in terms of number of contracts include California, Illinois, New York, Missouri, Texas, New Jersey, and Ohio. Because of the geographic dispersion of vendors commonly awarded contracts by SFUSD, the relevant market area was determined to include the entire United States.

Availability

Availability measurements for equipment and supplies vendors at the nationwide level were obtained by projecting Census Bureau numbers to 1989.2 Projections were made to 1989 because that is the midpoint of the time period under study. Bid lists for equipment and supplies contracts were not used to derive availability measurements because the lists either were not maintained or were not easily accessible within the Purchasing Department.

Table VIII-10 displays the availability measurements for equipment and supplies vendors across the country. Ethnic minority vendors hold just over 4 percent of the market. Of the ethnic groups, African American vendors hold the largest share at 1.75 percent of the total market. Asian and Hispanic vendors

each maintain just over 1 percent of the market. The market share held by female vendors is 22.27 percent of the total.

Minimum Market Share

The minimum market share required for meaningful statistical tests of disparity for equipment and supplies contracts are shown in Table VIII-11. The minimum share needed for tests based on number of contracts is determined by the total number of contracts awarded. For the years under study, only 124 equipment and supplies contracts were awarded for amounts in excess of $21,000; more than twelve thousand contracts were awarded for smaller amounts. The large difference in number of contracts awarded between the two size categories accounts for the difference in minimum market share required for meaningful statistical results.

Because of the low availability measurements for ethnic minority vendors, tests for statistically significant disparities between utilization and availability do not yield useful information for any ethnic minority group for equipment and supplies contracts in excess of $21,000. However, the large number of contracts under $21,000 permits meaningful statistical results for disparity tests based on number of contracts for all ethnic minority groups. Tests based on dollar awards provide useful information for African American, Asian, and Hispanic vendors.

The market share held by female vendors of equipment and supplies is sufficiently large to allow useful results from tests of disparity based both on number of contracts and on contract dollars for contracts of all sizes.

Equipment and Supplies Contracts Over $21,000

As provided by state law, contracts for materials in excess of $21,000 must be publicly advertised for at least two consecutive weeks in a newspaper of general circulation. As a result, access to information regarding acceptance of bids on large equipment and supplies contracts should be available to all interested parties, regardless of race or gender. A contract for equipment and supplies is awarded to the lowest responsible bidder.

Utilization

During fiscal years 1987-88 through 1989-90, no equipment and supplies contracts for amounts in excess of $21,000 were awarded to African American, Hispanic, or Native American vendors. Asian vendors received just over 4 percent of the contracts in this category, but they received only 2.29 percent of the contract dollars. These results are displayed in Table VIII-12.[4]

Female vendors received more than one-quarter of the total equipment and supplies contracts awarded for amounts greater than $21,000. Moreover, they received more than one-third of the total contract dollars for large equipment and supplies purchases.

Disparity

Results of the statistical tests of disparity for large equipment and supplies contracts are found in Tables VIII-13 and VIII-14. African American, Hispanic, and Native American vendors each suffered shortfalls in awards of large equipment and supplies contracts, relative to their respective shares of the market. However, no ethnic group had a market share large enough to gain useful information from statistical tests of disparity between utilization and availability.

Female vendors appear to have been very successful in obtaining large SFUSD contracts for equipment and supplies. While females were projected to hold 22.27 percent of the national market in 1989, over the course of the three-year period they received 28.23 percent of the contracts and 35.94 percent of the total contract dollars expended for large equipment and supplies purchases.

Equipment and Supplies Contracts Under $21,000

A formal bid procedure is not required for equipment and supplies contracts that total less than $21,000. SFUSD purchasers contact vendors to submit bids for smaller equipment and supplies contracts. Files of vendor brochures and

[4] The analysis is based on 125, of a total of 127, contracts for purchases of equipment and supplies over $21,000. Data required to complete the analysis were missing for the remaining two contracts.

previous contracts for similar purchases are used to select the list of vendors from whom to solicit bids. Bids are submitted either verbally or through the mail. After two to three bids are received, the contract is awarded to the lowest responsible bidder.

Utilization

As can be seen in Table VIII-15, ethnic minority vendors received nearly 6 percent of the more than twelve thousand equipment and supplies contracts for amounts less than $21,000 that were awarded from fiscal 1987-88 through fiscal 1989-90.[5] For each ethnic group, the percentage of contract dollars won fell just short of the percentage of contracts awarded. This indicates that the average size of equipment and supplies contracts won by ethnic minority vendors was slightly smaller than the average size contract awarded to majority vendors.

Female vendors won almost 30 percent of small equipment and supplies contracts. As was true for ethnic minorities, the contracts won by female vendors tended to be somewhat smaller than those won by male vendors.

Disparity

Table VIII-16 presents statistical tests of disparity based on number of contracts awarded for small equipment and supplies purchases. Similar results based on contract dollars appear in Table VIII-17.

African American and Hispanic vendors suffered shortfalls relative to their market shares both in terms of number of contracts won and in terms of contract dollars awarded. Both measures of disparity were statistically significant for Hispanic vendors. The disparity for African Americans was strong but not large enough to be statistically significant either in terms of number of contracts or contract dollars.

[5] The analysis is based on 12,129, of a total of 12,733, contracts for purchases of equipment and supplies under $21,000. Data required to complete the analysis were missing from the remaining 604 contracts.

In contrast, Asian, Native American, and female vendors won higher percentages of equipment supplies contracts than their respective market shares might have indicated. Similar results hold for the percentage of total contract dollars awarded to these groups.

GENERAL SERVICES

SFUSD contracts for services are also awarded through the Purchasing Department. Services contracts include rental agreements for equipment, as well as contracts for garbage removal, pest control, and repair and maintenance of equipment and buildings. Object codes used to define the services category appear in Table VIII-18.

State law requires that services contracts in excess of $15,000 be formally bid, including public advertisement of bid opportunities. Services contracts below this amount are bid informally, with purchasers contacting vendors for written or verbal bids on contracts.

Relevant Market Area

The relevant market area for SFUSD services contracts was determined to be the State of California. Vendors within California received more than 82 percent of the services contracts, and over 85 percent of the services contract dollars, for fiscal years 1987-88 through 1989-90. Table VIII-19 contains cumulative percentages of service contracts and service contract dollars awarded to vendors in various counties within California.[5]

Vendors in San Francisco County account for just under half of the total services contracts awarded from fiscal year 1987-88 through fiscal year 1989-90. However, nearly 72 percent of the services contract dollars were awarded

[5] The state of Arizona would have had to be included to reach a cumulative total of 85 percent of the services contracts awarded by SFUSD. The relevant market area for SFUSD service contracts is defined as the state of California, rather than the two states of California and Arizona, because sufficient data for projecting the growth rate of firms in Arizona were not readily available.

to vendors in San Francisco County. Los Angeles County received the second largest share of services contract awards. Vendors in Los Angeles won 13.53 percent of the services contracts and 6.84 percent of the services contract dollars during the years under study.

Availability

Just as with equipment and supplies, availability measurements for services vendors in California are based on projections of Census Bureau numbers to 1989, the midpoint of the time period under study. The availability figures for services contracts appear in Table VIII-20. Due to their inaccessibility, bid lists for services contracts were not used to derive availability measurements for purposes of this study.

Ethnic minorities accounted for 10.61 percent of the market for services within the State of California in 1989. Among ethnic minority service vendors, African Americans made up 4.04 percent of the total market, followed by Asians with a market share of 3.59 percent. Female vendors commanded a market share in excess of 65 percent of the total.

Minimum Market Share

Minimum market shares required for meaningful statistical tests of disparity in contracting for services are displayed in Table VIII-21. Because there were only 39 services contracts in excess of $15,000 awarded by SFUSD from fiscal 1987-88 through 1989-90, a minority group must control a very substantial share of the market before the statistical tests of disparity based on number of contracts can provide useful information about past discrimination. The large variation in the size of service contracts makes the minimum market share needed for meaningful tests based on dollar awards even larger.

Female vendors constitute the only group with a sufficiently large share of the services market in the State of California to yield meaningful statistical tests of disparity for general services contracts over $21,000. Tests for disparity between utilization and availability of female vendors are able to provide meaningful results both in terms of number of contracts and contract dollars awarded. Ethnic minorities as a group commanded a large enough share

of the market to allow informative tests of disparity based on number of contracts, but not for tests based on dollar awards for large service contracts.

Disparity results for general services contracts below $15,000 yield useful information for groups with much smaller market shares. With the exception of Native Americans, tests based on number of contracts and on dollar awards are meaningful for all ethnic groups and for female vendors.

Services Contracts Over $15,000

Service contracts for amounts greater than $15,000 must be bid through formal procedures, as required by California state law. The formal procedures require advertisement of contracts in a newspaper of general circulation for a minimum of two consecutive weeks and acceptance of bids in writing. All contracts for amounts in excess of $8,000 must be approved by the Board of Education. Service contracts that are bid formally ultimately are awarded to the lowest responsible bidder.

Utilization

Results of the utilization analysis of service contracts in excess of $15,000 appear in Table VIII-22.[7] Asian vendors were the only ethnic minorities to win any large services contracts with SFUSD during the three years under investigation, but the contracts that they won were of relatively small average size. Asian vendors won 7.69 percent of the large services contracts, but only 0.90 percent of the total contract dollars expended on large service contracts.

In contrast, female vendors won services contracts that, on average, were considerably larger than the service contracts won by male vendors. Female vendors accounted for 28.21 percent of the large service contracts and 52.55 percent of the contract dollars.

[7] The analysis is based on 39 contracts for purchases of general services in excess of $15,000. Data were complete for all of these contracts.

Disparity

As shown in Tables VIII-23 and VIII-24, ethnic minorities as a group won fewer services contracts in excess of $15,000 than would have been anticipated, based on their availability. However, the difference was not so large as to be statistically significant. Market shares held by individual ethnic groups were too small to allow meaningful conclusions from the statistical tests of disparity.

Female vendors won only 28.21 percent of the large service contracts awarded by SFUSD during the last three years, compared to their 65.07 percent market share. The disparity between utilization and availability for female vendors is strongly statistically significant for the test based on number of contracts awarded. However, because of the large average size of services contracts won by female vendors, the disparity based on dollar awards is not statistically significant.

Services Contracts Under $15,000

As was true for smaller equipment and supplies contracts, service contracts under $15,000 are bid informally. The Purchasing Department maintains files of vendors that have indicated an interest in contracting with SFUSD for use in selecting vendors from whom to solicit bids. Bids are accepted either in writing or verbally. Service contracts in excess of $8,000 must be approved by the Board of Education, regardless of whether they are bid formally or informally. The service contract is then awarded to the lowest responsible bidder.

Utilization

Utilization patterns for SFUSD services contracts under $15,000 are strikingly different than for services contracts in excess of that amount. The utilization results for small service contracts are contained in Table VIII-25.[3] Vendors from each of the four ethnic groups received services contracts,

[3] The analysis is based on 401, of a total of 412, contracts for purchases of general services below $15,000. Data required to complete the analysis were missing for the remaining 11 contracts.

and the average size of award was larger for Asian, Hispanic, and Native American vendors than the average size contract won by majority vendors.

Female vendors won only 5.99 percent of the small service contracts and 8.02 percent of the total dollar amount expended for small services contracts over the last three years. Hence, the average size of service contract won by female vendors was slightly larger than that won by male vendors.

Disparity

With the exception of Native American vendors, statistical tests of disparity for small service contracts provide useful information for all ethnic groups analyzed for this study. Results of the disparity tests are found in Tables VIII-26 and VIII-27. In terms of number of contracts awarded, statistically significant disparities were observed for African American, Asian, and Hispanic vendors. The disparity for minorities as a group was also statistically significant. Due to the variation in contract sizes, the disparity tests based on dollar awards to ethnic minorities was significant only for African American vendors.

Female vendors suffered a very large disparity between their utilization for service contracts under $15,000 and their availability within the California market. Both the tests based on number of contracts and the tests based on dollars awarded were very strongly statistically significant, indicating that the probability of observing such a large discrepancy by chance was virtually zero.

FOOD SERVICES

Food Services operates as an independent unit within the Purchasing Department. The personnel involved in advertising contracts, soliciting informal bids, and selecting winning vendors are different for Food Services contracts than for other contracts awarded through the Purchasing Departments. By state law, contracts for food purchases in excess of $21,000 must be awarded through formal procedures. All contracts over $8,000 are approved by the Board of Education.

The object codes that define the food services contracts are displayed in Table VIII-28.

Relevant Market Area

Based on utilization records, the relevant market area for SFUSD food services contracts is the State of California. The California counties that account for a cumulative total of at least 85 percent of the food services contracts and contract dollars are displayed in Table VIII-29. Alameda County led all others in terms of number of contracts, while San Francisco County had the largest share of contract dollars for food services purchases.

Availability

Availability measurements for food services vendors within the State of California are based on projections of numbers published by the U.S. Bureau of the Census. The market shares for ethnic minority and female food services vendors within the relevant market area are contained in Table VIII-30. Projections of market shares were made for 1989, the midpoint of the years under investigation for this study.

Among ethnic minorities, Hispanics command the largest share of the market for food services contracts, holding 5.49 percent of the total. Asian vendors follow closely with a market share of 4.88 percent. The share for African American food service vendors stood at 1.74 percent, while Native American vendors maintained a share of 0.09 percent of the total. Female vendors of all ethnicities controlled 48.24 percent of the market for food services.

Minimum Market Share

Table VIII-31 displays the minimum market shares required for meaningful statistical tests of disparity, based on the number of food services contracts awarded and the distribution of contract sizes. Because considerably more food services contracts are awarded for amounts under $21,000, statistical tests for the smaller contracts can provide useful information for more ethnic groups.

Since African American vendors account for only 1.74 percent of the food services market, none of the statistical tests of disparity can provide information about past discrimination against these vendors. The same is true for Native American food services vendors. Among ethnic minorities, only Hispanic vendors enjoy a sufficiently large market share for food services contracting to permit useful information for tests based on both number of contracts and contract dollars; however, this holds only for contracts under $21,000.

The market share held by female vendors of food services is sufficiently large to permit informative tests of statistical disparity both in terms of number of contracts and in terms of dollars awarded, independent of the size of the contracts.

Food Services Contracts Over $21,000

By state law, contracts for materials in excess of $21,000 must be awarded through formal bid procedures. Formal bid procedures include advertisement of contracts in a newspaper of general circulation for at least two consecutive weeks. As is true for all contracts over $8,000, these contracts must be approved by the Board of Education before they are awarded.

One very large contract for milk was excluded from the analysis of food services contracts over $21,000. This contract was for more than $800,000, nearly eight times the size of the next largest food services contract awarded from fiscal 1987-88 through fiscal 1989-90. Only one vendor was capable of delivering milk to all of the school sites, so there was no competition for the award of the contract.

Utilization

Minority vendors as a group won six of 65 food services contracts in excess of $21,000 that were awarded by SFUSD from fiscal 1987-88 through fiscal 1989-90.[3] As seen in Table VIII-32, this amounted to 9.23 percent of total contracts,

[3] The analysis is based on 65 contracts for the purchase of food services. Data were complete for all of these contracts.

and 10.27 percent of the total dollars expended on large food services contracts. African American and Asian vendors each won 4.62 percent of the contracts awarded, but the average size of contract won by Asian vendors was larger than the size won by African Americans. Hispanic and Native American vendors won no large food services contracts during the years under study.

Female vendors won three, or 4.62 percent of the total, large food services contracts during the three years under investigation. Their dollar winnings amounted to a slightly larger proportion, 5.63 percent, of the total dollars awarded for large food services contracts.

Disparity

As shown in Tables VIII-33 and VIII-34, African American vendors won larger percentages of contracts and contract dollars for large food services contracts than would have been expected, based on their availability. The percentage of contracts won by Asian vendors was smaller than their share of the market. Because of the large average size of contract won by these vendors, however, the percentage of dollars won by Asian vendors exceeded their market share. The test of disparity for Hispanic vendors, although large, was not informative because of the large minimum market share required for meaningful statistical results.

Female vendors accounted for nearly half of the market for food services contracts. Yet, they received only a small percentage of the large food services contracts. The disparity between utilization and availability of female food services vendors was strongly statistically significant for both number of contracts and dollar awards.

Food Services Contracts Under $21,000

Personnel within Food Services solicit bids for contracts under $21,000. Names of vendors that have indicated interest in supplying food items to SFUSD are used to solicit informal bids. Contract awards for amounts in excess of $8,000 must be approved by the Board of Education. The lowest responsible bidder is selected as the winning vendor.

Utilization

As was true within the services contracts, the pattern of awards of small food services contracts is much different than the pattern observed for contracts over $21,000. As can be seen in Table VIII-35, the only ethnic group to receive any small food services contracts for the three years under investigation was African Americans.[9] They received 6.87 percent of the total contracts and 6.12 percent of contract dollars expended for small food services contracts.

Female vendors won a larger percentage of small food service contracts than they did for the larger contracts, but the average size of these contracts was smaller than the awards received by male vendors. Females won 14.50 percent of the small food services contracts, but only 9.44 percent of the contract dollars.

Disparity

Tables VIII-36 and VIII-37 contain results of the statistical tests for disparity for small food services contracts. African Americans received considerably higher percentages of contracts and of contract dollars than their market share might have suggested. The disparities observed for Asian and Hispanic vendors were statistically significant, both in terms of number of contracts won and in terms of dollar awards. Minorities as a group suffered a shortfalls in terms of number of contracts and dollars awarded, but the disparities were not sufficiently large to be statistically significant.

While females won higher percentages of the small food services contracts than they did of the larger contracts, the difference between their utilization and availability was still strongly statistically significant for small food services contracts. This result held both for the tests based on number of contracts and the tests based on total dollars awarded.

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[9] The analysis is based on 131, of a total of 134, contracts for food services below $21,000. Data required to complete the analysis were missing for the remaining three contracts.

CONCLUSIONS

Although ethnic minority vendors tend to account for relatively low market shares for printing and publishing, equipment and supplies, general services, and food services contracts, their utilization by SFUSD fell short of their availability in several areas. Female vendors, on the other hand, command large shares in some of these markets. Nonetheless, they also suffered shortfalls in awards of contracts, relative to their availability, in a number of fields of contracting.

Within printing and publishing, statistically significant disparities between utilization in terms of number of contracts awarded and availability were experienced by African American, Asian, and Hispanic publishers. Tests based on dollar awards were significant for African Americans and minorities overall. Female vendors won more contracts and dollar awards for book orders than their proportionate share of the publishing market.

No ethnic minority group commanded a sufficiently large share of the market for equipment and supplies contracts to yield meaningful statistical results for any of the disparity tests for equipment and supplies contracts over $21,000. Female vendors received more of these large contracts and contract dollars than would have been expected, based on their availability within the relevant market. Statistically significant disparities, both in terms of number of contracts and in terms of contract dollars, were observed for Hispanic vendors for smaller equipment and supplies contracts within the time period under investigation.

Because of the relatively few service contracts for amounts greater than $15,000, no ethnic minority group accounted for a large enough share of the market to permit meaningful statistical tests of disparity. Female vendors did suffer a statistically significant disparity in terms of number of contracts awarded. Due to a few very large contracts, though, the disparity for female vendors in terms of dollars awarded was not statistically significant for large service contracts. In contrast, results for smaller service contracts revealed statistically significant disparities in terms of number of contracts awarded for African American, Asian, Hispanic, and female vendors. The tests in terms

of small service contract dollars were significant for African Americans and females.

For large food services contracts, female vendors suffered statistically significant shortfalls both in terms of number of contracts and in terms of contract dollars awarded. Asian, Hispanic, and female vendors all experienced statistically significant disparities between utilization and their respective availability measurements for food services contracts that are bid informally. This result held both in terms of number of contracts and contract dollars won by these vendors.

TABLE VIII - 1
San Francisco Unified School District

OBJECT CODES USED TO DEFINE
PRINTING AND PUBLISHING CONTRACTS

Books

4100 Textbooks
4110 Textbooks - General Purpose Fund
4112 Secondary Textbooks
4150 Textbooks - E.C 60242
4200 Books other than Textbooks
4210 Other Books - General Purpose Fund
4211 Library Books

Table VIII-2
San Francisco Unified School District

RELEVANT MARKET AREA CALCULATIONS
FOR PRINTING AND PUBLISHING CONTRACTS
Fiscal 1987-88 through 1989-90

CONTRACTS

STATE	TOTAL CONTRACTS	% OF CONTRACTS	CUMULATIVE %
CALIFORNIA	787	37.30%	37.30%
ILLINOIS	321	15.21%	52.51%
TEXAS	138	6.54%	59.05%
NEW YORK	129	6.11%	65.17%
OHIO	98	4.64%	69.81%
PENNSYLVANIA	91	4.31%	74.12%
MISSOURI	87	4.12%	78.25%
NEW JERSEY	47	2.23%	80.47%
CONNECTICUT	45	2.13%	82.61%
MASSACHUSETTS	39	1.85%	84.45%
KANSAS	39	1.85%	86.30%
TOTAL CONTRACTS	2,110		

DOLLARS

STATE	TOTAL CONTRACTS	% OF CONTRACTS	CUMULATIVE %
CALIFORNIA	$987,059	31.33%	31.33%
ILLINOIS	$853,267	27.08%	58.41%
PENNSYLVANIA	$215,667	6.85%	65.26%
TEXAS	$201,856	6.41%	71.66%
OHIO	$158,044	5.02%	76.68%
NEVADA	$108,739	3.45%	80.13%
MISSOURI	$107,884	3.42%	83.56%
NEW YORK	$88,686	2.81%	86.37%
MASSACHUSETTS	$76,651	2.43%	88.80%
KANSAS	$58,393	1.85%	90.66%
CONNECTICUT	$44,219	1.40%	92.06%
NEW JERSEY	$30,799	0.98%	93.04%
TOTAL DOLLARS	$3,150,572		

Table VIII-3
San Francisco Unified School District

AVAILIBILITY FOR PRINTING AND PUBLISHING
1989

Relevant Market Area: UNITED STATES

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
#OF FIRMS	1,558	1,580	1,219	33	4,390	76,004	22,378	58,016	80,394
% OF FIRMS	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%

book_av.wk1

Table VIII-5
San Francisco Unified School District

UTILIZATION FOR PRINTING AND PUBLISHING
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	3	29	17	0	49	2092	796	1345	2141
% Contracts	0.14%	1.35%	0.79%	0.00%	2.29%	97.71%	37.18%	62.82%	100.00%
Contract Dollars	$500	$27,001	$15,938	$0	$43,439	$3,054,585	$1,198,293	$1,899,731	$3,098,024
% Dollars	0.02%	0.87%	0.51%	0.00%	1.40%	98.60%	38.68%	61.32%	100.00%

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Table VIII-6
San Francisco Unified School District

PRINTING AND PUBLISHING CONTRACTS
FISCAL YEAR 87-88 through 89-90
Total Number of Contracts = 2141

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.14%	1.35%	0.79%	0.00%	2.29%	97.71%	37.18%	62.82%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%
% ACTUAL MINUS % EXPECTED	-1.80%	-0.61%	-0.72%	-0.04%	-3.17%	3.17%	9.34%	-9.34%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-6.03	-2.04	-2.73	-0.94	-6.46	6.46	9.65	-9.65	---
DISPARITY INDEX	7.23%	68.92%	52.37%	0.00%	41.91%	103.36%	133.57%	87.05%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	3	29	17	0	49	2092	796	1345	2141
EXPECTED NUMBER OF CONTRACTS	41	42	32	1	117	2024	596	1545	2141
DIFFERENCE	-38	-13	-15	-1	-68	68	200	-200	0
STANDARD DEVIATION	6.38	6.42	5.65	0.94	10.51	10.51	20.74	20.74	---

TOBKDS#

Table VIII-7
San Francisco Unified School District

PRINTING AND PUBLISHING
FISCAL YEAR 87-88 through 89-90
Total Number of Contract Dollars = $3,098,024

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.02%	0.87%	0.51%	0.00%	1.40%	98.60%	38.68%	61.32%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%
% ACTUAL MINUS % EXPECTED	-1.92%	-1.09%	-1.00%	-0.04%	-4.06%	4.06%	10.84%	-10.84%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.45	-1.38	-1.44	-0.36	-3.14	3.14	4.25	-4.25	---
DISPARITY INDEX	0.83%	44.35%	33.93%	0.00%	25.68%	104.29%	138.96%	84.97%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$500	$27,001	$15,938	$0	$43,439	$3,054,585	$1,198,293	$1,899,731	$3,098,024
EXPECTED CONTRACT DOLLARS	$60,038	$60,886	$46,975	$1,272	$169,171	$2,928,853	$862,348	$2,235,676	$3,098,024
DIFFERENCE	($59,538)	($33,885)	($31,037)	($1,272)	($125,732)	$125,732	$335,946	($335,946)	$0
STANDARD DEVIATION	24,328	24,495	21,565	3,575	40,096	40,096	79,093	79,093	---

Square root of sum of squared contract amounts = $176,472

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TABLE VIII - 8
San Francisco Unified School District

OBJECT CODES USED TO DEFINE
EQUIPMENT AND SUPPLIES CONTRACTS

Instructional Materials

4300 Instructional Materials and Supplies
4310 Instructional Materials and Supplies - General Purpose
4313 Instructional Supplies
4315 Instructional Supplies - Discretionary Fund
4340 Instructional Materials - E.C. 60242
4400 Instructional Media Materials and Supplies
4421 Audio Visual Supplies
4422 Library Supplies

Other Supplies

0930 Warehouse Inventory Purchases
0933 Shop Material Inventory Purchases
4320 Gasoline - Driver Education Cars
4500 Other Supplies
4510 Janitorial Supplies
4515 Other Supplies - Discretionary Fund
4520 Engineering Supplies
4530 Maintenance Supplies
4550 Office Supplies
4790 Other Food Service Supplies

Equipment

6400 Equipment
6410 Audiovisual Equipment
6415 Equipment - Discretionary Fund
6490 All Other Equipment
6500 Equipment Replacement

Table VIII-9
San Francisco Unified School District

RELEVANT MARKET AREA CALCULATIONS
FOR EQUIPMENT AND SUPPLIES CONTRACTS
Fiscal 1987-88 through 1989-90

CONTRACTS

STATE	TOTAL CONTRACTS	% OF CONTRACTS	CUMULATIVE %
CALIFORNIA	7,687	64.30%	64.30%
ILLINOIS	1,089	9.11%	73.41%
NEW YORK	590	4.94%	78.34%
MISSOURI	248	2.07%	80.42%
TEXAS	247	2.07%	82.48%
NEW JERSEY	222	1.86%	84.34%
OHIO	212	1.77%	86.11%
TOTAL CONTRACTS	11,955		

DOLLARS

STATE	TOTAL CONTRACTS	% OF CONTRACTS	CUMULATIVE %
CALIFORNIA	$20,392,387	74.62%	74.62%
ILLINOIS	$1,244,991	4.56%	79.18%
NEW YORK	$886,302	3.24%	82.42%
ARIZONA	$552,324	2.02%	84.44%
TEXAS	$401,586	1.47%	85.91%
MISSOURI	$270,741	0.99%	86.90%
NEW JERSEY	$223,245	0.82%	87.72%
OHIO	$166,493	0.61%	88.33%
TOTAL DOLLARS	$27,328,505		

Table VIII-10
San Francisco Unified School District

AVAILIBILITY FOR EQUIPMENT & SUPPLIES
1989

RELEVANT MARKET AREA: UNITED STATES

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
#OF FIRMS	14,000	9,407	8,162	452	32,021	766,391	177,826	620,586	798,412
% OF FIRMS	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%

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TABLE VIII-11
SAN FRANCISCO UNIFIED SCHOOL DISTRICT

MINIMUM MARKET SHARE REQUIRED
FOR MEANINGFUL STATISTICAL RESULTS
FOR EQUIPMENT AND SUPPLIES CONTRACTS

Fiscal Year	Type of Contract	Minimum Market Share For Tests Based on Number of Contracts	Minimum Market Share For Tests Based on Award Dollars
1987-88 thru 1989-90	Over $21,000	3.00%	7.23%
1987-88 thru 1989-90	Under $21,000	0.03%	0.10%

Table VIII-12
San Francisco Unified School District

UTILIZATION FOR EQUIPMENT & SUPPLIES CONTRACTS OVER $21,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	5	0	0	5	119	35	89	124
% Contracts	0.00%	4.03%	0.00%	0.00%	4.03%	95.97%	28.23%	71.77%	100.00%
Contract Dollars	$0	$167,519	$0	$0	$167,519	$7,153,253	$2,631,035	$4,689,736	$7,320,772
% Dollars	0.00%	2.29%	0.00%	0.00%	2.29%	97.71%	35.94%	64.06%	100.00%

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Table VIII 13
San Francisco Unified School District

EQUIPMENT & SUPPLIES: CONTRACTS OVER $21,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contracts = 124

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	4.03%	0.00%	0.00%	4.03%	95.97%	28.23%	71.77%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-1.75%	2.85%	-1.02%	-0.06%	0.02%	-0.02%	5.95%	-5.95%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.49	2.95	-1.13	-0.27	0.01	-0.01	1.59	-1.59	
DISPARITY INDEX	0.00%	342.23%	0.00%	0.00%	100.54%	99.98%	126.73%	92.34%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	5	0	0	5	119	35	89	124
EXPECTED NUMBER OF CONTRACTS	2	1	1	0	5	119	28	96	124
DIFFERENCE	-2	4	-1	0	0	0	7	-7	0
STANDARD DEVIATION	1.46	1.20	1.12	0.26	2.18	2.18	4.63	-4.63	

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Table VIII-14
San Francisco Unified School District

EQUIPMENT AND SUPPLIES: CONTRACTS OVER $21,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contract Dollars = $7,320,772

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	2.29%	0.00%	0.00%	2.29%	97.71%	35.94%	64.06%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-1.75%	1.11%	-1.02%	-0.06%	-1.72%	1.72%	13.67%	-13.67%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.94	0.72	-0.71	-0.17	-0.62	0.62	2.31	-2.31	--
DISPARITY INDEX	0.00	1.94	0.00	0.00	0.57	1.02	1.61	0.82	1.00

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$167,519	$0	$0	$167,519	$7,153,253	$2,631,035	$4,689,736	$7,320,772
EXPECTED CONTRACT DOLLARS	$128,368	$86,254	$74,839	$4,144	$293,606	$7,027,166	$1,630,516	$5,690,256	$7,320,772
DIFFERENCE	($128,368)	$81,264	($74,839)	($4,144)	($126,087)	$126,087	$1,000,519	($1,000,519)	$0
STANDARD DEVIATION	136,814	112,476	104,851	24,794	204,520	204,520	433,703	433,703	

Square root of sum of squared contract amounts = $1,042,367

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Table VIII-15
San Francisco Unified School District

UTILIZATION FOR EQUIPMENT & SUPPLIES CONTRACTS UNDER $21,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	192	391	96	46	725	11,404	3,606	8,523	12,129
% Contracts	1.58%	3.22%	0.79%	0.38%	5.98%	94.02%	29.73%	70.27%	100.00%
Contract Dollars	$279,877	$602,321	$105,855	$53,737	$1,041,791	$18,223,735	$5,548,004	$13,717,521	$19,265,525
% Dollars	1.45%	3.13%	0.55%	0.28%	5.41%	94.59%	28.80%	71.20%	100.00%

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Table VIII-16
San Francisco Unified School District

EQUIPMENT & SUPPLIES: CONTRACTS UNDER $21,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contracts = 12129

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	1.58%	3.22%	0.79%	0.38%	5.98%	94.02%	29.73%	70.27%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-0.17%	2.05%	-0.23%	0.32%	1.97%	-1.97%	7.46%	-7.46%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.43	20.88	-2.53	14.94	11.04	-11.04	19.74	-19.74	---
DISPARITY INDEX	90.28%	273.61%	77.42%	669.92%	149.04%	97.95%	133.49%	90.41%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	192	391	96	46	725	11,404	3,606	8,523	12,129
EXPECTED NUMBER OF CONTRACTS	213	143	124	7	486	11,643	2,701	9,428	12,129
DIFFERENCE	-21	248	-28	39	239	-239	905	-905	0
STANDARD DEVIATION	14.46	11.88	11.08	2.62	21.61	21.61	45.82	45.82	---

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Table VIII 17
San Francisco Unified School District

EQUIPMENT AND SUPPLIES: CONTRACTS UNDER $21,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contract Dollars = $19,265,525

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	1.45%	3.13%	0.55%	0.28%	5.41%	94.59%	28.80%	71.20%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-0.30%	1.95%	-0.47%	0.22%	1.40%	-1.40%	6.53%	-6.53%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.40	10.99	-2.86	5.69	4.33	-4.33	9.55	-9.55	
DISPARITY INDEX	82.85%	265.35%	53.75%	492.70%	134.83%	98.54%	129.30%	91.61%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$279,877	$602,321	$105,855	$53,737	$1,041,791	$18,223,735	$5,548,004	$13,717,521	$19,265,525
EXPECTED CONTRACT DOLLARS	$337,817	$226,989	$196,947	$10,907	$772,660	$18,492,865	$4,290,907	$14,974,619	$19,265,525
DIFFERENCE	($57,940)	$375,332	($91,093)	$42,830	$269,130	($269,130)	$1,257,098	($1,257,098)	$0
STANDARD DEVIATION	41,533	34,145	31,830	7,527	62,088	62,088	131,662	131,662	

Square root of sum of squared contract amounts = $316,438

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TABLE VIII - 18
San Francisco Unified School District

OBJECT CODES USED TO DEFINE
SERVICES CONTRACTS

Services

4551 Printing
5000 Services and Other Operating Expenses
5200 Travel and Conference Expense
5500 Utilities & Housekeeping Service
5522 Garbage Removal
5523 Laundry and Dry Cleaning
5524 Pest Control
5640 Repair and Maintenance Contracts
5641 Repair and Maintenance of Motor Vehicles
5642 Repair and Maintenance of Equipment
5643 Repair and Maintenance of Buildings
5645 Repair and Maintenance of Equipment - School Site Allocation
5690 Other Contractual Services
5691 Food Delivery Service
5700 Interdistrict and Non-Public School Services
5800 Other Services and Other Expenses
5811 Field Trips
5900 Support Costs

Rental

5600 Rentals, Leases and Repairs
5621 Rental of Motor Vehicles
5622 Rental/Lease of Equipment
5631 Rental of Real Property

Table VIII-19
San Francisco Unified School District

RELEVANT MARKET AREA CALCULATIONS
FOR SERVICES CONTRACTS
Fiscal 1987-88 through 1989-90

CONTRACTS

COUNTY	TOTAL CONTRACTS	% OF CONTRACTS	CUMULATIVE %
SAN FRANCISCO	268	48.99%	48.99%
LOS ANGELES	74	13.53%	62.52%
ALAMEDA	35	6.40%	68.92%
SANTA CLARA	31	5.67%	74.59%
SAN MATEO	27	4.94%	79.52%
CONTRA COSTA	5	0.91%	80.44%
ORANGE	4	0.73%	81.17%
MARIN	4	0.73%	81.90%
SACRAMENTO	1	0.18%	82.08%
BUTTE	1	0.18%	82.27%
SHASTA	1	0.18%	82.45%
TOTAL CONTRACTS	547		

DOLLARS

STATE	TOTAL CONTRACTS	% OF CONTRACTS	CUMULATIVE %
SAN FRANCISCO	$6,637,826	71.99%	71.99%
LOS ANGELES	$630,850	6.84%	78.84%
SAN MATEO	$251,776	2.73%	81.57%
SANTA CLARA	$214,627	2.33%	83.89%
ALAMEDA	$93,071	1.01%	84.90%
MARIN	$54,978	0.60%	85.50%
BUTTE	$13,089	0.14%	85.64%
CONTRA COSTA	$10,169	0.11%	85.75%
SACRAMENTO	$3,498	0.04%	85.79%
ORANGE	$3,378	0.04%	85.83%
SHASTA	$30	0.00%	85.83%
TOTAL DOLLARS	$9,220,040		

Table VIII-20
San Francisco Unified School District

AVAILIBILITY FOR SERVICES
1989

RELEVANT MARKET AREA: CALIFORNIA

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
#OF FIRMS	24,427	21,682	17,334	643	64,086	539,848	392,993	210,941	603,934
% Of FIRMS	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%

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TABLE VIII-21
SAN FRANCISCO UNIFIED SCHOOL DISTRICT

MINIMUM MARKET SHARE REQUIRED
FOR MEANINGFUL STATISTICAL RESULTS
FOR GENERAL SERVICES CONTRACTS

Fiscal Year	Type of Contract	Minimum Market Share For Tests Based on Number of Contracts	Minimum Market Share For Tests Based on Award Dollars
1987-88 thru 1989-90	Over $15,000	8.97%	33.60%
1987-88 thru 1989-90	Under $15,000	0.95%	2.25%

Table VIII-22
San Francisco Unified School District

UTILIZATION FOR SERVICES CONTRACTS OVER $15,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	3	0	0	3	36	11	28	39
% Contracts	0.00%	7.69%	0.00%	0.00%	7.69%	92.31%	28.21%	71.79%	100.00%
Contract Dollars	$0	$64,468	$0	$0	$64,468	$7,113,715	$3,771,819	$3,406,364	$7,178,183
% Dollars	0.00%	0.90%	0.00%	0.00%	0.90%	99.10%	52.55%	47.45%	100.00%

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Table VIII-23
San Francisco Unified School District

SERVICES: CONTRACTS OVER $15,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contracts = 39

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	7.69%	0.00%	0.00%	7.69%	92.31%	28.21%	71.79%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	4.10%	-2.87%	-0.11%	-2.92%	2.92%	-36.87%	36.87%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.28	1.38	-1.07	-0.20	-0.59	0.59	-4.83	4.83	---
DISPARITY INDEX	0.00%	214.26%	0.00%	0.00%	72.49%	103.27%	43.34%	205.55%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	3	0	0	3	36	11	28	39
EXPECTED NUMBER OF CONTRACTS	2	1	1	0	4	35	25	14	39
DIFFERENCE	-2	2	-1	0	-1	1	-14	14	0
STANDARD DEVIATION	1.23	1.16	1.04	0.20	1.92	1.92	2.98	2.98	

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Table VIII-24
San Francisco Unified School District

SERVICES: CONTRACTS OVER $15,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contract Dollars = $7,178,183

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	0.90%	0.00%	0.00%	0.90%	99.10%	52.55%	47.45%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	-2.69%	-2.87%	-0.11%	-9.71%	9.71%	-12.53%	12.53%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.57	-0.40	-0.47	-0.09	-0.87	0.87	-0.72	0.72	
DISPARITY INDEX	0.00%	25.02%	0.00%	0.00%	8.46%	110.87%	80.75%	135.86%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$64,468	$0	$0	$64,468	$7,113,715	$3,771,819	$3,406,364	$7,178,183
EXPECTED CONTRACT DOLLARS	$290,332	$257,706	$206,027	$7,643	$761,707	$6,416,475	$4,671,000	$2,507,183	$7,178,183
DIFFERENCE	($290,332)	($193,238)	($206,027)	($7,643)	($697,239)	$697,239	($899,181)	$899,181	$0
STANDARD DEVIATION	513,264	484,710	435,008	84,966	802,405	802,405	1,242,080	1,242,080	

Square root of sum of squared contract amounts = $2,605,350

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Table VIII-25
San Francisco Unified School District

UTILIZATION FOR SERVICES CONTRACTS UNDER $15,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	4	4	1	3	12	389	24	377	401
% Contracts	1.00%	1.00%	0.25%	0.75%	2.99%	97.01%	5.99%	94.01%	100.00%
Contract Dollars	$7,112	$18,497	$10,148	$7,200	$42,958	$661,800	$56,517	$648,241	$704,758
% Dollars	1.01%	2.62%	1.44%	1.02%	6.10%	93.90%	8.02%	91.98%	100.00%

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Table VIII-26
San Francisco Unified School District

SERVICES: CONTRACTS UNDER $15,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contracts = 401

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	1.00%	1.00%	0.25%	0.75%	2.99%	97.01%	5.99%	94.01%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-3.05%	-2.59%	-2.62%	0.64%	-7.62%	7.62%	-59.09%	59.09%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-3.10	-2.79	-3.14	3.94	-4.95	4.95	-24.82	24.82	---
DISPARITY INDEX	24.66%	27.78%	8.69%	702.68%	28.20%	108.52%	9.20%	269.17%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	4	4	1	3	12	389	24	377	401
EXPECTED NUMBER OF CONTRACTS	16	14	12	0	43	358	261	140	401
DIFFERENCE	-12	-10	-11	3	-31	31	-237	237	0
STANDARD DEVIATION	3.95	3.73	3.34	0.65	6.17	6.17	9.55	9.55	---

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Table VIII-27
San Francisco Unified School District

SERVICES: CONTRACTS UNDER $15,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contract Dollars = $704,758

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	1.01%	2.62%	1.44%	1.02%	6.10%	93.90%	8.02%	91.98%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-3.04%	-0.97%	-1.43%	0.92%	-4.52%	4.52%	-57.05%	57.05%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.99	-0.67	-1.11	3.63	-1.90	1.90	-15.47	15.47	---
DISPARITY INDEX	24.95%	73.11%	50.17%	959.56%	57.44%	105.05%	12.32%	263.34%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$7,112	$18,497	$10,148	$7,200	$42,958	$661,800	$56,517	$648,241	$704,758
EXPECTED CONTRACT DOLLARS	$28,505	$25,302	$20,228	$750	$74,785	$629,973	$458,601	$246,157	$704,758
DIFFERENCE	($21,393)	($6,805)	($10,079)	$6,450	($31,827)	$31,827	($402,084)	$402,084	$0
STANDARD DEVIATION	10,741	10,143	9,103	1,778	16,792	16,792	25,993	25,993	

Square root of sum of squared contract amounts = $54,521

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TABLE VIII - 28
San Francisco Unified School District

OBJECT CODES USED TO DEFINE
FOOD SERVICES CONTRACTS

Food (One object code only)

4710 Food

TABLE VIII-29
San Francisco Unified School District

RELEVANT MARKET AREA CALCULATIONS
FOR FOOD SERVICES CONTRACTS
Fiscal 1987-88 through 1989-90

CONTRACTS

COUNTY	# CONTRACTS	% CONTRACTS	CUMULATIVE %
ALAMEDA	60	30.00%	30.00%
SAN MATEO	43	21.50%	51.50%
SAN FRANCISCO	28	14.00%	65.50%
SANTA CLARA	13	6.50%	72.00%
LOS ANGELES	11	5.50%	77.50%
RIVERSIDE	11	5.50%	83.00%
BUTTE	8	4.00%	87.00%
TOTAL CONTRACTS	200		

DOLLARS

COUNTY	# DOLLARS	% DOLLARS	CUMULATIVE %
SAN FRANCISCO	$1,348,689	30.37%	30.37%
SAN MATEO	$1,115,221	25.12%	55.49%
ALAMEDA	$641,640	14.45%	69.94%
BUTTE	$373,206	8.40%	78.34%
RIVERSIDE	$233,263	5.25%	83.60%
LOS ANGELES	$220,903	4.97%	88.57%
SANTA CLARA	$47,858	1.08%	89.65%
TOTAL DOLLARS	$4,440,325		

Table VIII-30
San Francisco Unified School District

AVAILIBILITY FOR FOOD SERVICES
1989

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	37	104	117	2	260	1871	1028	1103	2131
% Contracts	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%

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TABLE VIII-31
SAN FRANCISCO UNIFIED SCHOOL DISTRICT

MINIMUM MARKET SHARE REQUIRED
FOR MEANINGFUL STATISTICAL RESULTS
FOR FOOD SERVICES CONTRACTS

Fiscal Year	Type of Contract	Minimum Market Share For Tests Based on Number of Contracts	Minimum Market Share For Tests Based on Award Dollars
1987-88 thru 1989-90	Over $21,000	5.58%	7.17%
1987-88 thru 1989-90	Under $21,000	2.85%	4.71%

Table VIII-32
San Francisco Unified School District

UTILIZATION FOR FOOD SERVICES CONTRACTS OVER $21,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	3	3	0	0	6	59	3	62	65
% Contracts	4.62%	4.62%	0.00%	0.00%	9.23%	90.77%	4.62%	95.38%	100.00%
Contract Dollars	$112,064	$195,000	$0	$0	$307,064	$2,684,099	$168,336	$2,822,826	$2,991,162
% Dollars	3.75%	6.52%	0.00%	0.00%	10.27%	89.73%	5.63%	94.37%	100.00%

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Table VIII 33
San Francisco Unified School District

FOOD SERVICES: CONTRACTS OVER $21,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contracts = 65

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	4.62%	4.62%	0.00%	0.00%	9.23%	90.77%	4.62%	95.38%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	2.88%	-0.26%	-5.49%	-0.09%	-2.97%	2.97%	-43.62%	43.62%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	1.78	-0.10	-1.94	-0.25	-0.73	0.73	-7.04	7.04	--
DISPARITY INDEX	265.82%	94.57%	0.00%	0.00%	75.66%	103.38%	9.57%	184.26%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	3	3	0	0	6	59	3	62	65
EXPECTED NUMBER OF CONTRACTS	1	3	4	0	8	57	31	34	65
DIFFERENCE	2	0	-4	0	-2	2	-28	28	0
STANDARD DEVIATION	1.05	1.74	1.84	0.25	2.64	2.64	4.03	4.03	

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Table VIII 34
San Francisco Unified School District

FOOD SERVICES: CONTRACTS OVER $21,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contract Dollars = $2,991,162

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	3.75%	6.52%	0.00%	0.00%	10.27%	89.73%	5.63%	94.37%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	2.01%	1.64%	-5.49%	-0.09%	-1.94%	1.94%	-42.61%	42.61%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	1.09	0.54	-1.70	-0.22	-0.42	0.42	-6.01	6.01	
DISPARITY INDEX	215.78%	133.58%	0.00%	0.00%	84.14%	102.20%	11.67%	182.33%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$112,064	$195,000	$0	$0	$307,064	$2,684,099	$168,336	$2,822,826	$2,991,162
EXPECTED CONTRACT DOLLARS	$51,935	$145,979	$164,226	$2,807	$364,947	$2,626,215	$1,442,945	$1,548,218	$2,991,162
DIFFERENCE	$60,129	$49,021	($164,226)	($2,807)	($57,883)	$57,883	($1,274,608)	$1,274,608	$0
STANDARD DEVIATION	55,396	91,376	96,607	12,986	138,807	138,807	211,919	211,919	

Square root of sum of squared contract amounts = $424,102

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Table VIII-35
San Francisco Unified School District

UTILIZATION FOR FOOD SERVICES CONTRACTS UNDER $21,000
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	9	0	0	0	9	122	19	112	131
% Contracts	6.87%	0.00%	0.00%	0.00%	6.87%	93.13%	14.50%	85.50%	100.00%
Contract Dollars	$50,411	$0	$0	$0	$50,411	$773,542	$77,755	$746,198	$823,953
% Dollars	6.12%	0.00%	0.00%	0.00%	6.12%	93.88%	9.44%	90.56%	100.00%

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Table VIII-36
San Francisco Unified School District

FOOD SERVICES: CONTRACTS UNDER $21,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contracts = 131

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	6.87%	0.00%	0.00%	0.00%	6.87%	93.13%	14.50%	85.50%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	5.13%	-4.88%	-5.49%	-0.09%	-5.33%	5.33%	-33.74%	33.74%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	4.50	-2.59	-2.76	-0.35	-1.86	1.86	-7.73	7.73	
DISPARITY INDEX	395.69%	0.00%	0.00%	0.00%	56.31%	106.07%	30.07%	165.18%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	9	0	0	0	9	122	19	112	131
EXPECTED NUMBER OF CONTRACTS	2	6	7	0	16	115	63	68	131
DIFFERENCE	7	-6	-7	0	-7	7	-44	44	0
STANDARD DEVIATION	1.50	2.47	2.61	0.35	3.75	3.75	5.72	5.72	

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Table VIII-37
San Francisco Unified School District

FOOD SERVICES: CONTRACTS UNDER $21,000
FISCAL YEAR 87-88 through 89-90
Total Number of Contract Dollars = $823,953

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	6.12%	0.00%	0.00%	0.00%	6.12%	93.88%	9.44%	90.56%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	4.38%	-4.88%	-5.49%	-0.09%	-6.08%	6.08%	-38.80%	38.80%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	2.96	-2.00	-2.13	-0.27	-1.64	1.64	-6.85	6.85	---
DISPARITY INDEX	352.38%	0.00%	0.00%	0.00%	50.15%	106.93%	19.56%	174.97%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$50,411	$0	$0	$0	$50,411	$773,542	$77,755	$746,198	$823,953
EXPECTED CONTRACT DOLLARS	$14,306	$40,212	$45,238	$773	$100,529	$723,424	$397,477	$426,476	$823,953
DIFFERENCE	$36,105	($40,212)	($45,238)	($773)	($50,118)	$50,118	($319,722)	$319,722	$0
STANDARD DEVIATION	12,203	20,129	21,282	2,861	30,578	30,578	46,684	46,684	---

Square root of sum of squared contract amounts = $93,426

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TECHNICAL APPENDIX

Projections for Availability Measurements

AVAILABILITY ESTIMATES FOR PRINTING & PUBLISHING
SIC 27

U.S., SMOBE	African American	Hispanic	Asian	Nat Am	Women	Total Maj & Min
1982						
Manufacturing	4,171	4,364	3,921	356	49,727	---
SIC 27	1,055	945	1,003	28	14,327	---
Percent of total	25.29%	21.65%	25.57%	7.93%	28.81%	
1987						
Manufacturing	8,004				93,960	
SIC 27	1,394				19,701	
Percent of total	17.42%				20.97%	
California, Survey of Minority Owned Business Enterprises (SMOBE)						
1982						
Manufacturing	926	1,966	1,855	56	8,824	---
1987						
Manufacturing	737				13,760	
---	---	---	---	---	---	---
Population Growth, U.S.						
1980, Census		14,803,000	3,834,000	1,429,000		
1989, Census		20,528,000	6,881,000	1,737,000		
Population Growth, California						
1980, Census		4,544,331	1,253,818	201,369		
1988,CA Department of Finance		6,588,800	2,159,822	346,878		27,857,300
---	---	---	---	---	---	---
Total Number of Firms In U.S., 1987 Economic Census						13,695,480
Number of Firms	SIC 27					74,899
1982 Number of U.S. Businesses, County Business Patterns					4,633,960	
1987 Number of U.S. Businesses, County Business Patterns					5,937,061	
Annual Growth Rate					3.60%	
Est Number of Firms 1989	SIC 27					80,394
Total Number of Firms In California, 1987 Economic Census						1,909,252
Number of Firms	SIC 27					9,895
1982 Number of California Businesses, County Business Patterns					526,168	
1987 Number of California Businesses, County Business Patterns					703,258	
Annual Growth Rate					4.23%	
Est Number of Firms 1989						10,750
---	---	---	---	---	---	---
Availability Estimate for U.S.		SIC 27				
1982	1,055	945	1,003	28	14,327	
1987	1,394				19,701	
82-87 growth	5.73%				6.58%	
80-89 pop growth		3.70%	6.71%	2.19%		
est 89	1,558	1,219	1,580	33	22,378	
Percent 1989	1.94%	1.52%	1.97%	0.04%	27.84%	
Availability Estimate for California		SIC 27				
Est. 1982	158	426	474	4	2,542	
Est. 1987	128				2,885	
82-87 firm growth	-4.11%				2.56%	
80-88 pop growth		4.75%	7.03%	7.03%		
est 89	118	589	763	7	3,035	
Percent 1989	1.10%	5.46%	7.10%	0.07%	28.23%	

AVAILIBILITY ESTIMATES FOR EQUIPMENT AND SUPPLIES
SIC 24-26,28-39,50-51

U.S. SMOBE	African American	Hispanic	Asian	Nat Am	Women	Total Maj & Min
1982						
Manuf./Wholesale	7,822	7,387	8,069	441	33,379	---
SIC 24-26,28-39,5	6,445	5,329	5,969	389	52,377	---
Percent of total	82.40%	72.24%	73.97%	88.21%	74.87%	
1987						
Manuf./Wholesale	13,523				175,473	
SIC 24-26,28-39,5	11,217				132,128	
Percent of total	82.95%				74.87%	
California, Survey of Minority Owned Business Enterprises (SMOBE)						
1982						
Manuf/Wholesale	930	2,567	3,314	81	11,791	---
1987						
Manuf./Wholesale	1,546				25,438	
Population Growth, U.S.						
1980, Census		14,803,000	3,834,000	1,429,000		
1989, Census		20,528,000	5,881,000	1,737,000		
Population Growth, California						
1980, Census		4,544,331	1,253,818	201,369		
1988,CA Department of Finance		6,588,800	2,159,822	346,878		27,857,300
Total Number of Firms In U.S., 1987 Economic Census						13,695,480
Number of Firms	SIC 24-26,28-39,50-51					743,839
1982 Number of U.S. Businesses, County Business Patterns					4,633,360	
1987 Number of U.S. Businesses, County Business Patterns					5,937,061	
Annual Growth Rate					3.60%	
Est Number of Firms 1989	SIC 24-26,28-39,50-51					798,412
Total Number of Firms In California, 1987 Economic Census						1,309,252
Number of Firms	SIC 24-26,28-39,50-51					98,265
1982 Number of California Businesses, County Business Patterns					525,168	
1987 Number of California Businesses, County Business Patterns					723,258	
Annual Growth Rate					4.23%	
Est Number of Firms 1989						106,757
Availability Estimate for U.S.		SIC 24-26,28-39,50-51				
1982	6,445	5,329	5,969	389	52,877	
1987	11,217				132,128	
82-87 growth	11.72%				16.01%	
80-89 pop growth		3.70%	6.71%	2.19%		
est 89	14,000	8,162	9,407	452	177,826	
Percent 1989	1.75%	1.02%	1.18%	0.06%	22.27%	
Availability Estimate for California		SIC 24-26,28-39,50-51				
Est 1982	766	2,113	2,452	71	8,828	
Est. 1987	1,282				19,046	
82-87 firm growth	10.85%				16.62%	
80-88 pop growth		4.75%	7.03%	7.03%		
est 89	1,576	2,325	3,945	115	25,904	
Percent 1989	1.48%	2.74%	3.70%	0.11%	24.26%	

AVAILABILITY ESTIMATES FOR SERVICES
SIC 72,73,76,82,83,89

U.S., SMOBE	African American	Hispanic	Asian	Nat Am	Women	Total Maj & Min
1982						
Selected Services	147,263	98,279	100,488	4,931	1,401,776	---
SIC 72,73,76,82,8	64,362	40,885	36,969	1,903	693,996	---
Percent of total	43.71%	41.60%	36.79%	38.59%	49.51%	
1987						
Selected Services	209,547				2,269,028	
SIC 72,73,76,82,8	147,083				1,838,623	
Percent of total	70.19%				81.03%	

California, Survey of Minority Owned Business Enterprises (SMOBE)

1982						
Selected Services	20,865	30,105	36,620	1,036	202,511	---
1987						
Selected Services	26,262				328,269	

Population Growth, U.S.					
1980, Census	14,803,000	3,834,000	1,429,000		
1989, Census	20,528,000	6,881,000	1,737,000		
Population Growth, California					
1980, Census	4,544,331	1,253,818	201,369		
1988,CA Department of Finance	6,588,800	2,159,822	346,878		27,857,300
Total Number of Firms in U.S., 1987 Economic Census					13,695,480
Number of Firms	SIC 72,73,76,82,83,89				4,207,950
1982 Number of U.S. Businesses, County Business Patterns				4,633,960	
1987 Number of U.S. Businesses, County Business Patterns				5,937,061	
Annual Growth Rate				3.60%	
Est Number of Firms 1989	SIC 72,73,76,82,83,89				4,516,676
Total Number of Firms in California, 1987 Economic Census					1,809,252
Est Number of Firms	SIC 72,73,76,82,83,89				555,894
1982 Number of California Businesses, County Business Patterns				526,168	
1987 Number of California Businesses, County Business Patterns				703,258	
Annual Growth Rate				4.23%	
Est Number of Firms 1989					603,934

Availability Estimate for U.S.	SIC 72,73,76,82,83,89				
1982	64,362	40,885	36,969	1,903	693,996
1987	147,083				1,838,623
82-87 growth	17.97%				21.51%
80-89 pop growth		3.70%	6.71%	2.19%	
est 89	204,708	52,724	58,263	2,215	2,714,857
Percent 1989	4.53%	1.17%	1.29%	0.05%	60.11%

Availability Estimate for California	SIC 72,73,76,82,83,89				
Est. 1982	9,119	12,524	13,472	400	100,260
Est. 1987	18,434				266,001
82-87 firm growth	15.11%				21.55%
80-88 pop growth		4.75%	7.03%	7.03%	
est 89	24,427	17,334	21,682	643	392,993
Percent 1989	4.04%	2.87%	3.59%	0.11%	65.07%

AVAILIBILITY ESTIMATES FOR FOOD AND KINDRED PRODUCTS
SIC 20

SMOBE	African American	Hispanic	Asian	Nat Am	Women	Total Maj & Min
1982						
Manufacturing	4,171	4,364	3,921	356	49,727	---
SIC 20	76	187	137	5	1,028	---
Percent of total	1.82%	4.29%	3.49%	1.57%	2.07%	
1987						
Manufacturing	8,004				93,360	
SIC 20	286				4,282	
Percent of total	3.57%				4.56%	
California, Survey of Minority Owned Business Enterprises (SMOBE)						
1982						
Manufacturing	626	1,366	1,855	56	8,824	---
1987						
Manufacturing	737				13,760	
Population Growth, U.S.						
1980, Census		14,803,000	3,834,000	1,429,200		
1989, Census		20,528,000	6,881,000	1,737,000		
Population Growth, California						
1980, Census		4,544,331	1,253,818	201,369		
1988,CA Dof Fin		6,588,800	2,159,822	346,878		27,357,300
Total Number of Firms In U.S., 1987 Economic Census						13,695,480
Number of Firms	SIC 20					14,850
1982 Number of U.S. Businesses, County Business Patterns					4,633,360	
1987 Number of U.S. Businesses, County Business Patterns					5,937,261	
Annual Growth Rate					3.60%	
Est Number of Firms 1989	SIC 20					15,940
Total Number of Firms In California, 1987 Economic Census						1,809,252
Number of Firms	SIC 20					1,962
1982 Number of California Businesses, County Business Patterns					526,168	
1987 Number of California Businesses, County Business Patterns					703,258	
Annual Growth Rate					4.23%	
Est Number of Firms 1989						2,131
Availability Estimate for U.S.		SIC 20				
1982	76	187	137	5	1,028	
1987	286				4,282	
82-87 growth	30.35%				33.02%	
80-89 pop growth		3.70%	6.71%	2.19%		
est 89	486	241	216	7	7,577	
Percent 1989	3.05%	1.51%	1.36%	0.04%	47.54%	
Availability Estimate for California		SIC 20				
Est. 1982	11	34	65	1	182	
Est. 1987	26				627	
82-87 firm growth	18.22%				28.01%	
80-88 pop growth		4.75%	7.03%	7.03%		
est 89	37	117	104	2	1328	
Percent 1989	1.74%	5.49%	4.88%	0.09%	48.23%	

IX. UTILIZATION ANALYSIS OF OTHER PROFESSIONAL SERVICES CONTRACTS

SFUSD contracts with a number of consultants, attorneys, auditors, lecturers, and other professionals for services in a variety of specialized trade categories. The procedures used to select these contractors differ depending on whether the work is done for a particular school or for the central administration of the School District as a whole. The selection procedures also depend on the scale of the project to be performed. As is true for all contract categories, contracts with awards in excess of $8,000 must be approved by the Board of Education.

Contracts for lecturers and other services performed within individual schools generally involve relatively small amounts of money. Many of these contracts are awarded as sole source contracts because the contractor is chosen for his or her unique skills and experience. The principal for each school grants final approval for these types of contracts.

Contracts for the services of attorneys and auditors typically involve larger projects that are awarded centrally by SFUSD. Formal bids often are required for the projects involving significant amounts of money. However, contracts for professional services are not necessarily awarded to the lowest responsible bidder because the School District needs to maintain sufficient discretion in negotiating the specifics of the specialized professional services for which they are contracting.

Because of the decentralized system of awarding professional services contracts, data collection efforts could not be as comprehensive as they were for other trade categories. Lists of professional services contracts that included the name of the consultant, the award date, and the amount of the award were used to identify utilization of ethnic minority and female consultants. Ethnic information pertaining to the consultant was supplied by SFUSD personnel, to the extent that the information was available.

Due to the sparsity of the data, only the utilization data is presented for those consultants whose ethnicity and gender were identified. No information regarding the business address of the consultant or the line of business was collected for the professional services contracts. Consequently, it was not possible to define the geographic boundaries of a relevant market area or to measure availability within the relevant market of firms that provide comparable services. Without an availability measurement to be used as a bench mark, no disparity tests were possible.

UTILIZATION

Records of a total of 1317 professional services contracts were found for fiscal years 1987-88, 1988-89, and 1989-90. SFUSD personnel supplied ethnic and gender information for 673, or just over one-half, of the consultants who were awarded these contracts. Utilization results based on those contracts for which ethnic and gender information were available appear in Table IX-1.

Female consultants were awarded 86.48 percent of all SFUSD professional services contracts, but only 76.49 percent of the contract dollars for these services. On the other hand, ethnic minorities won 20.06 percent of the contracts and 25.50 percent of the dollars for professional services contracts. Among ethnic groups, Asians and Hispanics won contract awards that, on average, exceeded the average value of contract awarded to majority consultants. However, the contracts won by African American and Native American consultants were of smaller average size.

Without meaningful measurements of availability of ethnic minorities and females for professional services, it is difficult to draw conclusions about the utilization results. In addition, the utilization results could be substantially altered if ethnic and gender information were available for all consultants that won SFUSD awards. Unless more complete records can be maintained regarding awards of professional services contracts, it will be difficult to establish whether past contracting practices have resulted in

evidence of discrimination, justifying a remedial contracting preference program for resolution.

Table IX-1
San Francisco Unified School District

UTILIZATION FOR PROFESSIONAL SERVICES
Fiscal 1987-88 through 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	14	72	46	3	135	538	582	91	673
% Contracts	2.08%	10.70%	6.84%	0.45%	20.06%	79.94%	86.48%	13.52%	100.00%
Contract Dollars	$6,325	$158,269	$99,941	$750	$265,285	$774,974	$816,519	$223,740	$1,040,259
% Dollars	0.61%	15.21%	9.61%	0.07%	25.50%	74.50%	78.49%	21.51%	100.00%

X. FINDINGS

The findings of the MBE/WBE Disparity Study conducted for SFUSD do provide substantial evidence of statistically significant disparities between utilization and availability of minority and women contractors within particular contracting categories. The anecdotal evidence corroborates these statistical findings. Hence, SFUSD has sufficient evidence of inequities resulting from past contracting practices to justify a race- and gender-based contracting preference program targeted at those areas of contracting where significant disparities were observed.

LEGAL FINDINGS

The *Croson* decision requires that any MBE/WBE contracting preference program must meet the two-pronged test of strict scrutiny. First, the anecdotal and statistical analyses must establish a pattern of past discrimination in contracting as proof that a compelling public interest will be served by the adoption of an MBE/WBE program. Second, that program must be narrowly tailored to address the specific instances of discrimination confirmed by the evidence. Court decisions since *Croson* have looked favorably upon MBE/WBE contracting preference programs that apply race-conscious features in a flexible manner that is sensitive to the actual availability of MBE/WBE contractors.

NARRATIVE/HISTORICAL FINDINGS

The results of the narrative/historical study show that women and minority contractors do experience discrimination in contracting with SFUSD. In general, MBE/WBEs perceive the business practices of the School District as facilitating the perpetuation of the "old boy network," and excluding or limiting the participation of women and minorities in contracting.

SFUSD appears to exclude women and minorities at the most basic levels by limiting access to information necessary for attempting to contract. For

example, the School District's bid process is seen as giving preference to white contractors long established with the District. Furthermore, since many women and minority firms find that subcontracting is the only path to working with the School District, discriminatory practices on the part of prime contractors working for SFUSD restrict participation of MBE/WBEs.

Finally, small business issues pose particular problems for MBE/WBEs. The cost and accessibility of financing, bonding, and insurance tend to have a disproportionate impact on minority- and woman-owned businesses when added to the perception of unfair, discriminatory treatment.

STATISTICAL FINDINGS

Summaries of the statistical analysis are presented in the accompanying tables. Statistically significant disparities within construction and construction-related professional services contracting are exhibited in Table X-1; results for printing and publishing, equipment and supplies, general services, and food services contracts appear in Table X-2.

The relevant market area for construction contracts awarded by SFUSD includes the California counties of San Francisco, San Mateo, Alameda, and Marin. Within this geographic area, more evidence of statistically significant disparities for prime contractors occur in the award of projects under $15,000 than in the selection of prime contractors for larger projects. African American and Hispanic contractors experienced statistically significant disparities in terms of the number of contracts over $15,000 awarded to them; however, the disparities in terms of dollar awards were not large enough to be significant for any minority group. For construction contracts under $15,000, statistically significant disparities were observed for Hispanics and females, both in terms of number of contracts won and in terms of dollar awards. The disparity in terms of number of contracts was also significant for Asian contractors. Statistically significant shortfalls in the number of earthquake relief contracts awarded to Asians and to women were also observed.

Disparities among ethnic minority construction subcontractors were strong for African Americans, Asians, and Hispanics. The market share held by Native American subcontractors was too small to yield useful information from the statistical tests for that group.

One explanation for the disparity results observed for prime construction contractors is that California state law requires formal bid procedures, including public advertisement of the acceptance of bids, for larger construction projects. The smaller contracts, on the other hand, are not necessarily advertised in general circulation newspapers. Instead, SFUSD project managers exercise considerable discretion in choosing contractors from whom to solicit bids on particular projects. Wider dispersement of information about bid opportunities for smaller projects might help to increase participation rates for minority and female contractors. With respect to the subcontracting results, there is strong evidence to suggest that a contracting preference program adopted by SFUSD should focus on the composition of the construction team hired by prime contractors for larger construction projects.

Construction-related professional services contracts include those awarded to architects and engineers, consultants, and real estate appraisers. Among these contracts, statistically significant disparities in terms of number of contracts awarded were observed for African Americans and for women. Female contractors and consultants also experienced statistically significant shortfalls in term of dollar awards for their services.

The SFUSD Purchasing Department awards contracts to outside vendors for purchases within the categories of printing and publishing, equipment and supplies, general services, and food services. With the exception of printing and publishing, the data for each of these categories were disaggregated according to the size of contract because of differences in bid procedures required for the award of large, versus small, contracts.

SFUSD's relevant market area for printing and publishing and for equipment and supplies includes the entire United States. Within these trade categories, statistically significant disparities between utilization and availability were

experienced by African American, Asian, and Hispanic publishers, as well as Hispanic vendors of equipment and supplies for purchases less than $21,000.

For the trade categories of general services and food services, the state of California makes up the relevant market area for the School District's purchases. African American, Asian, Hispanic, and female vendors of general services suffered statistically significant disparities for contracts under $15,000. Within food services, female vendors experienced strong disparities for contracts of all sizes; the disparities for Asians and Hispanics were observed to be significant for contracts under $21,000.

SUMMARY

The *Croson* decision requires that an MBE/WBE contracting preference program adopted by SFUSD be prefaced by the establishment of evidence of past discrimination. Then, the program must be narrowly tailored to address the types of discrimination established by the evidence. The anecdotal and the statistical analyses reported in this study do show evidence of past discrimination against certain minority groups within particular trade categories. An MBE/WBE contracting preference program directed at these areas could serve to remedy past inequities resulting from SFUSD contracting practices.

Table X-1
San Francisco Unified School District

TESTS OF STATISTICAL SIGNIFICANCE FOR
DISPARITY IN CONSTRUCTION CONTRACTS

	African-American	Asian	Hispanic	Native American	Minority	Female
PRIME CONTRACTS						
OVER $15,000						
Number of Contracts	-3.91*	-0.42	-2.03*	@	-4.81*	1.08
Contract Dollars	@	-1.56	@	@	-0.88	@
UNDER $15,000						
Number of Contracts	-0.47	-3.95*	-4.97*	@	-7.26*	-4.06*
Contract Dollars	-0.72	-1.87	-4.37*	@	-5.31*	-3.75*
SUBCONTRACTS						
Number of Contracts	-3.91*	-2.67*	-1.97*	@	-6.22*	0.56
Contract Dollars	-2.21*	-2.19*	-1.75	@	-4.70*	@
EARTHQUAKE FUND						
Number of Contracts	-1.83	-2.82*	0.63	@	-3.24*	-2.55*
Contract Dollars	-1.32	0.01	-0.71	@	-1.52	@
CONSTRUCTION-RELATED PROFESSIONAL SERVICES						
Number of Contracts	-2.93*	-2.09*	-1.48	@	-4.94*	-6.34*
Contract Dollars	-1.57	-0.40	@	@	-1.71	-3.53*

* Test is significant if value is greater than 1.96 or less than -1.96.
@ Minimum market share is too small to permit meaningful statistical results.

Table X-2
San Francisco Unified School District
TESTS OF STATISTICAL SIGNIFICANCE FOR
DISPARITY IN PURCHASING CONTRACTS

	African-American	Asian	Hispanic	Native American	Minority	Female
PRINTING & PUBLISHING						
Number of Contracts	-6.03*	-2.04*	-2.73*	@	-6.46*	9.65*
Contract Dollars	-2.45*	-1.38	-1.44	@	-3.14*	4.25*
EQUIPMENT & SUPPLIES						
OVER $21,000						
Number of Contracts	@	@	@	@	0.01	1.59
Contract Dollars	@	@	@	@	@	2.31*
UNDER $21,000						
Number of Contracts	-1.43	20.88*	-2.53*	14.94*	-11.04*	19.74*
Contract Dollars	-1.40	10.99*	-2.86*	@	4.33*	9.55*
SERVICES						
OVER $15,000						
Number of Contracts	@	@	@	@	-0.59	-4.83*
Contract Dollars	@	@	@	@	@	-0.72
UNDER $15,000						
Number of Contracts	-3.10*	-2.79*	-3.14*	@	-4.95*	-24.82*
Contract Dollars	-1.99*	-0.67	-1.11	@	-1.90	-15.47*
FOOD SERVICES						
OVER $21,000						
Number of Contracts	@	@	@	@	-0.73	-7.04*
Contract Dollars	@	@	@	@	-0.42	-6.01*
UNDER $21,000						
Number of Contracts	@	-2.59*	-2.76*	@	-1.86	-7.73*
Contract Dollars	@	-2.00*	-2.13*	@	-1.64	-6.85*

* Test is significant if value is greater than 1.96 or less than -1.96.
@ Minimum market share is too small to permit meaningful statistical results.

GLOSSARY

Active discrimination: Showing partiality or prejudice directly toward individuals or groups based on their membership in racial, ethnic, or gender groups.

Anecdotal evidence: Unpublished accounts of events by participants, observers, or third party observers.

Availability: The percentage of firms within a specific industry and within the relevant geographic market area having appropriate qualifications and interest in obtaining work with a particular clientele. Availability measurements can serve as a bench marks for utilization goals in an MBE/WBE contracting preference program.

Disparity: The difference between levels of utilization and levels of availability for a given ethnic and/or gender group. A measure of disparity in contracting shows the extent to which firms within a particular racial or gender group have been under-utilized relative to the availability of these firms.

Good faith effort: Actions taken to fulfill requirements of an MBE/WBE program, regardless of success of these actions. Jurisdictions frequently define the actions that constitute a good faith effort on the part of contractors.

Minority-owned business enterprise (MBE): A firm or corporation whose ownership is held by a member, or members, of a racial or ethnic minority group. Generally, ownership is defined as holding a minimum of 51 percent of a company's assets and participating substantially in the company's routine operations.

Narrative/historical evidence: Accounts of events according to descriptions of participants or observers, or through written documents describing past events; anecdotal evidence. This type of evidence is specifically qualitative in nature, as opposed to numerical data.

Passive discrimination: Indirect discrimination against racial, ethnic, or gender groups as a result of doing business with, or adhering to the policies of, a firm or industry that practices active discrimination against these same groups.

Race-conscious policies: Policies that apply, or give preference, only to members of a particular race or ethnicity.

Race-neutral policies: Policies that apply, or give preference, to members of a group that is defined by characteristics other than race or ethnicity. For example, the size of a firm's revenues, the number of its employees, or geographic location may be criteria used to determine participation in race-neutral programs.

Relevant market area: The geographic area from which a buyer of goods or services generally will seek a seller. A small proportion of sellers will often be found beyond the relevant market area.

Standard error: A measure of variation; as applied to a disparity analysis, a measure of the typical size of a disparity measurement under sampling variation.

Statistical significance: A measure of the likelihood that an observed outcome can be attributed to random chance. In this study, an observed disparity is statistically significant if there is less than a 5 percent chance that the difference between the actual utilization percentage and the availability percentage could be explained by chance.

Strict scrutiny: The most stringent level of judicial review requiring that the problem addressed must be an extreme problem and the proposed solution must specifically address that problem.

Utilization: The extent to which a group of firms is hired to provide contract work, as measured either by the percentage of total contracts awarded to these firms or the percentage of total contract dollars won by them.

Woman-owned business enterprise (WBE): A firms whose ownership is held by a woman, or women. Generally, ownership is defined as holding a minimum of 51 percent of a company's assets and participating substantially in the company's routine operations.

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MBE/WBE DISPARITY STUDY
for
SAN FRANCISCO UNIFIED SCHOOL DISTRICT

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VOLUME THREE

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APPENDIX A

Appendix

to

Disparity Analysis of Construction Contracts

Table VI-A-1
San Francisco Unified School District

UTILIZATION FOR PRIME CONSTRUCTION CONTRACTS OVER $15,000

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	6		0	7	18	4	21	25
% Contracts	0.00%	24.00%	0.00%	0.00%	28.00%	72.00%	16.00%	84.00%	100.00%
Contract Dollars	$0	$1,082,338	$18,490	$0	$1,100,828	$9,179,458	$574,812	$9,705,474	$10,280,286
% Dollars	0.00%	10.53%	0.18%	0.00%	10.71%	89.29%	5.59%	94.41%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	5	8	0	13	32	9	36	45
% Contracts	0.00%	11.11%	17.78%	0.00%	28.89%	71.11%	20.00%	80.00%	100.00%
Contract Dollars	$0	$264,316	$3,633,520	$0	$3,897,836	$5,689,686	$867,341	$8,720,181	$9,587,522
% Dollars	0.00%	2.76%	37.90%	0.00%	40.66%	59.34%	9.05%	90.95%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	5	14	3	0	22	39	5	56	61
% Contracts	8.20%	22.95%	4.92%	0.00%	36.07%	63.93%	8.20%	91.80%	100.00%
Contract Dollars	$5,748,441	$1,245,282	$8,071,510	$0	$15,065,233	$17,273,063	$1,079,291	$26,259,004	$27,338,296
% Dollars	21.03%	4.56%	29.52%	0.00%	55.11%	44.89%	3.95%	96.05%	100.00%

Table VI-A-2
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1987-88
Total Number of Contracts = 25

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	24.00%	4.00%	0.00%	28.00%	72.00%	16.00%	84.00%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-16.49%	3.43%	-11.60%	-0.18%	-25.01%	25.01%	5.18%	-5.18%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.22	0.42	-1.60	-0.21	-2.51	2.51	0.83	-0.83	
DISPARITY INDEX	0.00%	116.69%	25.64%	0.00%	52.82%	153.24%	147.93%	94.19%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	6	1	0	7	18	4	21	25
EXPECTED NUMBER OF CONTRACTS	4	5	4	0	13	12	3	22	25
DIFFERENCE	-4	1	-3	0	-6	6	1	-1	0
STANDARD DEVIATION	1.86	2.02	1.81	0.21	2.50	2.50	1.55	1.55	

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Table VI-A-3
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1987-88
Total Number of Contract Dollars = $10,280,286

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	10.53%	0.18%	0.00%	10.71%	89.29%	5.59%	94.41%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-16.49%	-10.04%	-15.42%	-0.18%	-42.31%	42.31%	-5.22%	5.22%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.87	-0.48	-0.83	-0.08	-1.65	1.65	-0.33	0.33	
DISPARITY INDEX	0.00%	51.19%	1.15%	0.00%	20.20%	190.04%	51.70%	105.86%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$1,082,338	$18,490	$0	$1,100,828	$9,179,458	$574,812	$9,705,474	$10,280,286
EXPECTED CONTRACT DOLLARS	$1,695,154	$2,114,385	$1,604,016	$18,227	$5,450,010	$4,830,276	$1,111,875	$9,168,411	$10,280,286
DIFFERENCE	($1,695,154)	($1,032,047)	($1,585,526)	($18,227)	($4,349,182)	$4,349,182	($537,063)	$537,063	$0
STANDARD DEVIATION	1,955,063	2,129,496	1,911,849	221,648	2,629,464	2,629,464	1,636,280	1,636,280	

Square root of sum of squared contract amounts = $5,268,511

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Table VI-A 4
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1988-89
Total Number of Contracts = 45

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	11.11%	17.78%	0.00%	28.89%	71.11%	20.00%	80.00%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-16.49%	-9.46%	2.17%	-0.18%	-24.13%	24.13%	9.18%	-9.18%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.98	-1.57	0.40	-0.28	-3.24	3.24	1.98	-1.98	
DISPARITY INDEX	0.00%	54.02%	113.94%	0.00%	54.49%	151.35%	184.92%	89.70%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	5	8	0	13	32	9	36	45
EXPECTED NUMBER OF CONTRACTS	7	9	7	0	24	21	5	40	45
DIFFERENCE	-7	-4	1	0	-11	11	4	-4	0
STANDARD DEVIATION	2.49	2.71	2.43	0.28	3.35	3.35	2.08	2.08	

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Table VI-A 5
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1988-89
Total Number of Contract Dollars = $9,587,522

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	2.76%	37.90%	0.00%	40.66%	59.34%	9.05%	90.95%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-16.49%	-17.81%	22.30%	-0.18%	-12.36%	12.36%	-1.77%	1.77%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.71	-1.70	2.37	-0.16	-0.95	0.95	-0.22	0.22	
DISPARITY INDEX	0.00%	13.40%	242.89%	0.00%	76.69%	126.30%	83.64%	101.98%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$264,316	$3,633,520	$0	$3,897,836	$5,689,686	$867,341	$8,720,181	$9,587,522
EXPECTED CONTRACT DOLLARS	$1,580,921	$1,971,902	$1,495,925	$16,999	$5,082,747	$4,504,775	$1,036,948	$8,550,574	$9,587,522
DIFFERENCE	($1,580,921)	($1,707,586)	$2,137,595	($16,999)	($1,184,911)	$1,184,911	($169,607)	$169,607	$0
STANDARD DEVIATION	923,157	1,005,522	902,752	104,659	1,241,602	1,241,602	772,632	772,632	

Square root of sum of squared contract amounts = $2,487,727

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Table VI-A-6
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1989-90
Total Number of Contracts = 61

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	8.20%	22.95%	4.92%	0.00%	36.07%	63.93%	8.20%	91.80%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.45%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-8.29%	2.38%	-10.68%	-0.18%	-16.95%	16.95%	-2.62%	2.62%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.75	0.46	-2.30	-0.33	-2.65	2.65	-0.66	0.66	
DISPARITY INDEX	49.71%	111.59%	31.52%	0.00%	68.03%	136.07%	75.79%	102.94%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	5	14	3	0	22	39	5	56	61
EXPECTED NUMBER OF CONTRACTS	10	13	10	0	32	29	7	54	61
DIFFERENCE	-5	1	-7	0	-10	10	-2	2	0
STANDARD DEVIATION	2.90	3.16	2.83	0.33	3.90	3.90	2.43	2.43	

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Table VI A 7
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS OVER $15,000
Fiscal 1989-90
Total Number of Contract Dollars = $27,338,296

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	21.03%	4.56%	29.52%	0.00%	55.11%	44.89%	3.95%	96.05%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	4.54%	-16.01%	13.92%	-0.18%	2.09%	-2.09%	-6.87%	6.87%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	0.35	-1.12	1.08	-0.12	0.12	-0.12	-0.63	0.63	
DISPARITY INDEX	127.52%	22.15%	189.23%	0.00%	103.95%	95.55%	36.50%	107.70%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$5,748,441	$1,245,282	$8,071,510	$0	$15,065,233	$12,273,063	$1,079,291	$26,259,004	$27,338,296
EXPECTED CONTRACT DOLLARS	$4,507,910	$5,622,770	$4,265,550	$48,472	$14,493,174	$12,845,121	$2,956,801	$24,381,494	$27,338,296
DIFFERENCE	$1,240,531	($4,377,488)	$3,805,960	($48,472)	$572,059	($572,059)	($1,877,510)	$1,877,510	$0
STANDARD DEVIATION	3,589,184	3,909,415	3,509,850	406,910	4,827,278	4,827,278	3,003,950	3,003,950	

Square root of sum of squared contract amounts = $9,672,146

Table VI-A-8
San Francisco Unified School District

UTILIZATION FOR PRIME CONSTRUCTION CONTRACTS UNDER $15,000

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	5	6	2	0	13	44	2	55	57
% Contracts	8.77%	10.53%	3.51%	0.00%	22.81%	77.19%	3.51%	96.49%	100.00%
Contract Dollars	$28,399	$50,934	$2,991	$0	$82,324	$243,446	$2,870	$322,900	$325,770
% Dollars	8.72%	15.63%	0.92%	0.00%	25.27%	74.73%	0.88%	99.12%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	11	7	3	0	21	33	0	54	54
% Contracts	20.37%	12.96%	5.56%	0.00%	38.89%	61.11%	0.00%	100.00%	100.00%
Contract Dollars	$40,906	$63,479	$11,977	$0	$116,362	$162,539	$0	$278,901	$278,901
% Dollars	14.67%	22.76%	4.29%	0.00%	41.72%	58.28%	0.00%	100.00%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	15	6	1	0	22	70	2	90	92
% Contracts	16.30%	6.52%	1.09%	0.00%	23.91%	76.09%	2.17%	97.83%	100.00%
Contract Dollars	$7,242	$29,610	$960	$0	$107,812	$325,541.91	$2,270	$431,083	$433,353
% Dollars	17.82%	6.83%	0.22%	0.00%	24.88%	75.12%	0.52%	99.48%	100.00%

Table VI A 9
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1987-88
Total Number of Contracts = 57

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	8.77%	10.53%	3.51%	0.00%	22.81%	77.19%	3.51%	96.49%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-7.72%	-10.04%	-12.09%	-0.18%	-30.21%	30.21%	-7.31%	7.31%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.57	-1.88	-2.52	-0.32	-4.57	4.57	-1.78	1.78	
DISPARITY INDEX	53.20%	51.18%	22.49%	0.00%	43.02%	164.29%	32.44%	108.19%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	5	6	2	0	13	44	2	55	57
EXPECTED NUMBER OF CONTRACTS	9	12	9	0	30	27	6	51	57
DIFFERENCE	-4	-6	-7	0	-17	17	-4	4	0
STANDARD DEVIATION	2.80	3.05	2.74	0.32	3.77	3.77	2.34	2.34	

88SPEND#

Table VI A 10
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1987 88
Total Number of Contract Dollars - $325,770

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	8.72%	15.63%	0.92%	0.00%	25.27%	74.73%	0.88%	99.12%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-7.77%	-4.93%	-14.68%	-0.18%	-27.74%	27.74%	-9.93%	9.93%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.23	-0.72	-2.38	-0.25	-3.27	3.27	-1.88	1.88	
DISPARITY INDEX	52.87%	76.02%	5.88%	0.00%	47.67%	159.05%	8.15%	111.14%	100.00

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$28,399	$50,934	$2,991	$0	$82,324	$243,446	$2,870	$322,900	$325,770
EXPECTED CONTRACT DOLLARS	$53,717	$67,002	$50,829	$578	$172,705	$153,066	$35,234	$290,536	$325,770
DIFFERENCE	($25,318)	($16,068)	($47,838)	($578)	($90,381)	$90,381	($32,364)	$32,364	$0
STANDARD DEVIATION	20,538	22,370	20,084	2,328	27,622	27,622	17,189	17,189	

Square root of sum of squared contract amounts = $55,345

88SPENSD

Table VI-A-11
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1988-89
Total Number of Contracts = 54

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	20.37%	12.96%	5.56%	0.00%	38.89%	61.11%	0.00%	100.00%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	3.88%	-7.60%	-10.05%	-0.18%	-14.13%	14.13%	-10.82%	10.82%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	0.77	-1.38	-2.03	-0.31	-2.08	2.08	-2.56	2.56	
DISPARITY INDEX	123.54%	63.03%	35.61%	0.00%	73.36%	130.06%	0.00%	112.13%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	11	7	3	0	21	33	0	54	54
EXPECTED NUMBER OF CONTRACTS	9	11	8	0	29	25	6	48	54
DIFFERENCE	2	-4	-5	0	-8	8	-6	6	0
STANDARD DEVIATION	2.73	2.97	2.67	0.31	3.67	3.67	2.28	2.28	

89SPEND#

Table VI A 12
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1988 89
Total Number of Contract Dollars = $278,901

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	14.67%	22.76%	4.29%	0.00%	41.72%	58.28%	0.00%	100.00%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-1.82%	2.19%	-11.31%	-0.18%	-11.29%	11.29%	-10.82%	10.82%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.28	0.31	-1.79	-0.24	-1.30	1.30	-2.00	2.00	
DISPARITY INDEX	88.95%	110.66%	27.52%	0.00%	78.70%	124.03%	0.00%	112.13%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$40,906	$63,479	$11,977	$0	$116,362	$162,539	$0	$278,901	$278,901
EXPECTED CONTRACT DOLLARS	$45,989	$57,363	$43,516	$495	$147,857	$131,044	$30,165	$248,736	$278,901
DIFFERENCE	($5,083)	$6,116	($31,539)	($495)	($31,495)	$31,495	($30,165)	$30,165	($0)
STANDARD DEVIATION	17,984	19,588	17,586	2,039	24,187	24,187	15,052	15,052	

Square root of sum of squared contract amounts = $48,463

89SPENSD

Table VI-A-13
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1989-90
Total Number of Contracts = 92

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	16.30%	6.52%	1.09%	0.00%	23.91%	76.09%	2.17%	97.83%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-0.19%	-14.05%	-14.52%	-0.18%	-29.10%	29.10%	-8.64%	8.64%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.05	-3.33	-3.84	-0.40	-5.59	5.59	-2.67	2.67	
DISPARITY INDEX	98.88%	31.71%	6.97%	0.00%	45.11%	161.94%	20.10%	109.69%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	15	6	1	0	22	70	2	90	92
EXPECTED NUMBER OF CONTRACTS	15	19	14	0	49	43	10	82	92
DIFFERENCE	0	-13	-13	0	-27	27	8	8	0
STANDARD DEVIATION	3.56	3.88	3.48	0.40	4.79	4.79	2.98	2.98	

90SPEND#

Table VI-A-14
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
PRIME CONSTRUCTION CONTRACTS UNDER $15,000
Fiscal 1989-90
Total Number of Contract Dollars = $433,353

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	17.82%	6.83%	0.22%	0.00%	24.88%	75.12%	0.52%	99.48%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	1.33%	-13.73%	-15.38%	-0.18%	-28.14%	28.14%	-10.29%	10.29%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	0.28	-2.66	-3.32	-0.33	-4.42	4.42	-2.60	2.60	
DISPARITY INDEX	108.09%	33.22%	1.42%	0.00%	46.93%	159.88%	4.84%	111.54%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$77,242	$29,610	$960	$0	$107,812	325541.91	$2,270	$431,083	$433,353
EXPECTED CONTRACT DOLLARS	$71,457	$89,129	$67,615	$768	$229,739	$203,615	$46,870	$386,484	$433,353
DIFFERENCE	$5,784	($59,519)	($66,655)	($768)	($121,927)	$121,927	($44,600)	$44,600	$0
STANDARD DEVIATION	20,527	22,359	20,073	2,327	27,608	27,608	17,180	17,180	

Square root of sum of squared contract amounts = $55,317

90SPEN.D

Table VI-A-15
San Francisco Unified School District

UTILIZATION FOR SUB CONSTRUCTION CONTRACTS

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	4	0	0	4	10	3	11	14
% Contracts	0.00%	28.57%	0.00%	0.00%	28.57%	71.43%	21.43%	78.57%	100.00%
Contract Dollars	$0	$13,500	$0	$0	$13,500	$224,821	$72,962	$165,359	$238,321
% Dollars	0.00%	5.66%	0.00%	0.00%	5.66%	94.34%	30.62%	69.38%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	1	2	5	1	9	22	2	29	31
% Contracts	3.23%	6.45%	16.13%	3.23%	29.03%	70.97%	6.45%	93.55%	100.00%
Contract Dollars	$10,000	$145,000	$44,500	$5,000	$204,500	$739,082	$11,500	$932,082	$943,582
% Dollars	1.06%	15.37%	4.72%	0.53%	21.67%	78.33%	1.22%	98.78%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	3	7	6	1	17	59	10	66	76
% Contracts	3.95%	9.21%	7.89%	1.32%	22.37%	77.63%	13.16%	86.84%	100.00%
Contract Dollars	$42,500	$171,300	$276,489	$19,500	$509,789	$8,098,464	$1,111,654	$7,496,599	$8,608,253
% Dollars	0.49%	1.99%	3.21%	0.23%	5.92%	94.08%	12.98%	87.02%	100.00%

Table VI A 16
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION SUBCONTRACTS
Fiscal 1987-88
Total Number of Contracts = 14

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	28.57%	0.00%	0.00%	28.57%	71.43%	21.43%	78.57%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-16.49%	8.00%	-15.60%	-0.18%	-24.44%	24.44%	10.61%	-10.61%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.66	0.74	-1.61	-0.16	-1.83	1.83	1.28	1.28	
DISPARITY INDEX	0.00%	138.92%	0.00%	0.00%	53.89%	152.02%	198.13%	88.10%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	4	0	0	4	10	3	11	14
EXPECTED NUMBER OF CONTRACTS	2	3	2	0	7	7	2	12	14
DIFFERENCE	-2	1	-2	0	-3	3	1	-1	0
STANDARD DEVIATION	1.39	1.51	1.36	0.16	1.87	1.87	1.16	1.16	

88SBCND#

Table VI-A-17
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION SUBCONTRACTS
Fiscal 1987-88
Total Number of Contract Dollars = $238,321

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	5.66%	0.00%	0.00%	5.66%	94.34%	30.62%	69.38%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-16.49%	-14.90%	-15.60%	-0.18%	-47.35%	47.35%	19.80%	-19.80%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.00	-0.83	-0.96	-0.09	-2.12	2.12	1.43	-1.43	
DISPARITY INDEX	0.00%	27.54%	0.00%	0.00%	10.69%	200.77%	283.06%	77.80%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$13,500	$0	$0	$13,500	$224,821	$72,962	$165,359	$238,321
EXPECTED CONTRACT DOLLARS	$39,298	$49,016	$37,185	$423	$126,344	$111,977	$25,776	$212,545	$238,321
DIFFERENCE	($39,298)	($35,516)	($37,185)	($423)	($112,844)	$112,844	$47,186	($47,186)	$0
STANDARD DEVIATION	39,493	43,016	38,620	4,477	53,116	53,116	33,053	33,053	

Square root of sum of squared contract amounts = $106,426

88SBCNSO

Table VI A 18
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION SUBCONTRACTS
Fiscal 1988-89
Total Number of Contracts = 31

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	3.23%	6.45%	16.13%	3.23%	29.03%	70.97%	6.45%	93.55%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-13.26%	-14.12%	0.53%	3.05%	-23.98%	23.98%	-4.36%	4.36%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.99	-1.94	0.08	4.03	-2.68	2.68	-0.78	0.78	
DISPARITY INDEX	19.56%	31.37%	103.37%	1819.35%	54.76%	151.04%	59.65%	104.89%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	1	2	5	1	9	22	2	29	31
EXPECTED NUMBER OF CONTRACTS	5	6	5	0	16	15	3	28	31
DIFFERENCE	-4	-4	0	1	-7	7	-1	1	0
STANDARD DEVIATION	2.07	2.25	2.02	0.23	2.78	2.78	1.73	1.73	

895BCND#

Table VI-A-19
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION SUBCONTRACTS
Fiscal 1988-89
Total Number of Contract Dollars = $943,582

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	1.06%	15.37%	4.72%	0.53%	21.67%	78.33%	1.22%	98.78%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-15.43%	-5.20%	-10.89%	0.35%	-31.34%	31.34%	-9.60%	9.60%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.56	-0.48	-1.13	0.32	-2.36	2.36	-1.16	1.16	
DISPARITY INDEX	6.43%	74.72%	30.23%	298.86%	40.88%	166.70%	11.27%	110.76%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$10,000	$145,000	$44,500	$5,000	$204,500	$739,082	$11,500	$932,082	$943,582
EXPECTED CONTRACT DOLLARS	$155,591	$194,070	$147,226	$1,673	$500,232	$443,350	$102,054	$841,528	$943,582
DIFFERENCE	($145,591)	($49,070)	($102,726)	$3,327	($295,732)	$295,732	($90,554)	$90,554	($0)
STANDARD DEVIATION	93,095	101,401	91,037	10,554	125,208	125,208	77,915	77,915	

Square root of sum of squared contract amounts = $250,872

895BCNSO

Table VI A 20
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION SUBCONTRACTS
Fiscal 1989-90
Total Number of Contracts = 76

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	3.95%	9.21%	7.89%	1.32%	22.37%	77.63%	13.16%	86.84%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-12.54%	-11.36%	-7.71%	1.14%	-30.65%	30.65%	2.34%	-2.34%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.95	-2.45	-1.85	2.36	-5.35	5.35	0.66	-0.66	
DISPARITY INDEX	23.94%	44.78%	50.60%	742.11%	42.19%	165.22%	121.66%	97.37%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	3	7	6	1	17	59	10	66	76
EXPECTED NUMBER OF CONTRACTS	13	16	12	0	40	36	8	68	76
DIFFERENCE	-10	-9	-6	1	-23	23	2	-2	0
STANDARD DEVIATION	3.24	3.52	3.16	0.37	4.35	4.35	2.71	2.71	

90SBLND#

Table VI-A-21
San Francisco Unified School District

STATISTICAL TESTS OF DISPARITY
CONSTRUCTION SUBCONTRACTS
Fiscal 1989-90
Total Number of Contract Dollars = $8,608,253

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.49%	1.99%	3.21%	0.23%	5.92%	94.08%	12.98%	87.02%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	16.49%	20.57%	15.60%	0.18%	53.01%	46.99%	10.82%	89.18%	100.00%
% ACTUAL MINUS % EXPECTED	-16.00%	-18.58%	-12.39%	0.05%	-47.09%	47.09%	2.17%	-2.17%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.97	-2.10	-1.56	0.05	-4.31	4.31	0.32	-0.32	
DISPARITY INDEX	2.99%	9.68%	20.59%	127.76%	11.17%	200.23%	120.04%	97.52%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$42,500	$171,300	$276,489	$19,500	$509,789	$8,098,464	$1,117,658	$7,490,595	$8,608,253
EXPECTED CONTRACT DOLLARS	$1,419,446	$1,770,492	$1,343,132	$15,263	$4,563,595	$4,044,658	$931,034	$7,677,218	$8,608,253
DIFFERENCE	($1,376,946)	($1,599,192)	($1,066,643)	$4,237	($4,053,806)	$4,053,806	$186,624	($186,624)	($0)
STANDARD DEVIATION	699,173	761,554	683,719	79,266	940,354	940,354	585,169	585,169	

Square root of sum of squared contract amounts = $1,884,134

90SBCNSD

APPENDIX B

Appendix

to

Disparity Analysis of Purchasing Contracts

Table VIII-A-1
San Francisco Unified School District

PRINTING AND PUBLISHING UTILIZATION

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	10	10	0	20	733	258	495	753
% Contracts	0.00%	1.33%	1.33%	0.00%	2.66%	97.34%	34.26%	65.74%	100.00%
Contract Dollars	$0	$9,704	$8,772	$0	$18,476	$911,909	$366,288	$564,097	$930,385
% Dollars	0.00%	1.04%	0.94%	0.00%	1.99%	98.01%	39.37%	60.63%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	2	5	6	0	13	741	279	475	754
% Contracts	0.27%	0.66%	0.80%	0.00%	1.72%	98.28%	37.00%	63.00%	100.00%
Contract Dollars	$423	$4,734	$6,396	$0	$11,553	$1,260,021	$429,523	$842,050	$1,271,573
% Dollars	0.03%	0.37%	0.50%	0.00%	0.91%	99.09%	33.78%	66.22%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	1	14	1	0	16	618	259	375	634
% Contracts	0.16%	2.21%	0.16%	0.00%	2.52%	97.48%	40.85%	59.15%	100.00%
Contract Dollars	$77	$12,564	$770	$0	$13,411	$882,655	$402,482	$493,584	$896,066
% Dollars	0.01%	1.40%	0.09%	0.00%	1.50%	98.50%	44.92%	55.08%	100.00%

Table VIII A-2
San Francisco Unified School District

PRINTING AND PUBLISHING CONTRACTS
FISCAL YEAR 87-88
Total Number of Contracts = 753

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	1.33%	1.33%	0.00%	2.66%	97.34%	34.26%	65.74%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%
% ACTUAL MINUS % EXPECTED	-1.94%	-0.64%	-0.19%	-0.04%	-2.80%	2.80%	6.43%	6.43%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-3.86	-1.26	-0.42	-0.56	-3.39	3.39	3.94	3.94	
DISPARITY INDEX	0.00%	67.57%	87.58%	0.00%	48.64%	102.97%	123.09%	91.09%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	10	10	0	20	733	258	495	753
EXPECTED NUMBER OF CONTRACTS	15	15	11	0	41	712	210	543	753
DIFFERENCE	-15	-5	-1	0	-21	21	48	48	0
STANDARD DEVIATION	3.78	3.81	3.35	0.56	6.23	6.23	12.30	12.30	

88BK05#

Table VIII-A-3
San Francisco Unified School District

PRINTING AND PUBLISHING
FISCAL YEAR 87-88
Total Number of Contract Dollars = $930,385

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	1.04%	0.94%	0.00%	1.99%	98.01%	39.37%	60.63%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%
% ACTUAL MINUS % EXPECTED	-1.94%	-0.92%	-0.57%	-0.04%	-3.47%	3.47%	11.53%	-11.53%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.36	-0.64	-0.45	-0.20	-1.48	1.48	2.48	-2.48	
DISPARITY INDEX	0.00%	53.07%	62.18%	0.00%	36.37%	103.68%	141.44%	84.02%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$9,704	$8,772	$0	$18,476	$911,909	$366,288	$564,097	$930,385
EXPECTED CONTRACT DOLLARS	$18,030	$18,285	$14,107	$382	$50,805	$879,580	$258,976	$671,408	$930,385
DIFFERENCE	($18,030)	($8,581)	($5,335)	($382)	($32,329)	$32,329	$107,312	($107,312)	$0
STANDARD DEVIATION	13,293	13,385	11,784	1,953	21,910	21,910	43,219	43,219	

Square root of sum of squared contract amounts = $96,430

88BND$

Table VIII A 4
San Francisco Unified School District

PRINTING AND PUBLISHING CONTRACTS
FISCAL YEAR 88-89
Total Number of Contracts = 754

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.27%	0.66%	0.80%	0.00%	1.72%	98.28%	37.00%	63.00%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%
% ACTUAL MINUS % EXPECTED	-1.67%	-1.30%	-0.72%	-0.04%	-3.74%	3.74%	9.17%	-9.17%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-3.33	-2.58	-1.62	-0.56	-4.52	4.52	5.62	-5.62	
DISPARITY INDEX	13.69%	33.74%	52.48%	0.00%	31.51%	103.95%	132.93%	87.30%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	2	5	6	0	13	741	279	475	754
EXPECTED NUMBER OF CONTRACTS	15	15	11	0	41	713	210	544	754
DIFFERENCE	-13	-10	-5	0	-28	28	69	-69	0
STANDARD DEVIATION	3.79	3.81	3.36	0.56	6.24	6.24	12.31	12.31	

89BD05#

Table VIII A 5
San Francisco Unified School District

PRINTING AND PUBLISHING
FISCAL YEAR 88-89
Total Number of Contract Dollars - $1,271,573

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.03%	0.37%	0.50%	0.00%	0.91%	99.09%	33.78%	66.22%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%
% ACTUAL MINUS % EXPECTED	-1.90%	-1.59%	-1.01%	-0.04%	-4.55%	4.55%	5.94%	-5.94%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.48	-1.23	-0.89	-0.22	-2.14	2.14	1.42	1.42	
DISPARITY INDEX	1.72%	18.94%	33.17%	0.00%	16.64%	104.81%	121.35%	91.76%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$423	$4,734	$6,396	$0	$11,553	$1,260,021	$429,523	$842,050	$1,271,573
EXPECTED CONTRACT DOLLARS	$24,643	$24,990	$19,281	$522	$69,436	$1,202,138	$353,948	$917,626	$1,271,573
DIFFERENCE	($24,219)	($20,257)	($12,885)	($522)	($57,883)	$57,883	$75,576	($75,576)	$0
STANDARD DEVIATION	16,417	16,530	14,553	2,412	27,058	27,058	53,374	53,374	

Square root of sum of squared contract amounts - $119,089

89DKD$

Table VIII A 6
San Francisco Unified School District

PRINTING AND PUBLISHING CONTRACTS
FISCAL YEAR 89-90
Total Number of Contracts = 634

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.16%	2.21%	0.16%	0.00%	2.52%	97.48%	40.85%	59.15%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%
% ACTUAL MINUS % EXPECTED	-1.78%	0.24%	-1.36%	-0.04%	-2.94%	2.94%	13.02%	13.02%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-3.25	0.44	-2.80	-0.51	-3.25	3.25	7.31	-7.31	-
DISPARITY INDEX	8.14%	112.36%	10.40%	0.00%	46.22%	103.11%	146.76%	81.96%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	1	14	1	0	16	618	259	375	634
EXPECTED NUMBER OF CONTRACTS	12	12	10	0	35	599	176	458	634
DIFFERENCE	-11	2	-9	0	-19	19	83	83	0
STANDARD DEVIATION	3.47	3.50	3.08	0.51	5.72	5.72	11.29	11.29	

90bh02#

Table VIII-A-7
San Francisco Unified School District

PRINTING AND PUBLISHING
FISCAL YEAR 89-90
Total Number of Contract Dollars = $896,066

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.01%	1.40%	0.09%	0.00%	1.50%	98.50%	44.92%	55.08%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.94%	1.97%	1.52%	0.04%	5.46%	94.54%	27.84%	72.16%	100.00%
% ACTUAL MINUS % EXPECTED	-1.93%	-0.56%	-1.43%	-0.04%	-3.96%	3.96%	17.08%	-17.08%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.43	-0.42	-1.20	-0.21	-1.79	1.79	3.90	-3.90	
DISPARITY INDEX	0.44%	71.34%	5.67%	0.00%	27.41%	104.19%	161.36%	76.33%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$77	$12,564	$770	$0	$13,411	$882,655	$402,482	$493,584	$896,066
EXPECTED CONTRACT DOLLARS	$17,365	$17,611	$13,587	$368	$48,931	$847,135	$249,424	$646,642	$896,066
DIFFERENCE	($17,288)	($5,047)	($12,817)	($368)	($35,520)	$35,520	$153,058	($153,058)	$0
STANDARD DEVIATION	12,066	12,150	10,696	1,773	19,888	19,888	39,230	39,230	

Square root of Sum of squared contract amounts = $87,530

90B:0$

Table VIII-A-8
San Francisco Unified School District

UTILIZATION FOR EQUIPMENT & SUPPLIES CONTRACTS OVER $21,000

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	1	0	0	1	35	13	23	36
% Contracts	0.00%	2.78%	0.00%	0.00%	2.78%	97.22%	36.11%	63.89%	100.00
Contract Dollars	$0	$32,841	$0	$0	$32,841	$2,277,586	$1,109,764	$1,200,663	$2,310,427
% Dollars	0.00%	1.42%	0.00%	0.00%	1.42%	98.58%	48.03%	51.97%	100.00

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	4	0	0	4	46	13	37	50
% Contracts	0.00%	8.00%	0.00%	0.00%	8.00%	92.00%	26.00%	74.00%	100.00
Contract Dollars	$0	$134,677	$0	$0	$134,677	$2,721,359	$1,045,458	$1,810,578	$2,856,036
% Dollars	0.00%	4.72%	0.00%	0.00%	4.72%	95.28%	36.61%	63.39%	100.00

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	0	0	0	0	38	9	29	38
% Contracts	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	23.68%	76.32%	100.00
Contract Dollars	$0	$0	$0	$0	$0	$2,154,308	$475,813	$1,678,495	$2,154,308
% Dollars	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	22.09%	77.91%	100.00

Table VIII-A-9
San Francisco Unified School District

EQUIPMENT & SUPPLIES: CONTRACTS OVER $21,000
FISCAL YEAR 87-88
Total Number of Contracts = 36

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	2.78%	0.00%	0.00%	2.78%	97.22%	36.11%	63.89%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-1.75%	1.60%	-1.02%	-0.06%	-1.23%	1.23%	13.84%	-13.84%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.80	0.89	-0.61	-0.14	-0.38	0.38	2.00	-2.00	--
DISPARITY INDEX	0.00%	235.76%	0.00%	0.00%	69.26%	101.28%	162.13%	82.20%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	1	0	0	1	35	13	23	36
EXPECTED NUMBER OF CONTRACTS	1	0	0	0	1	35	8	28	36
DIFFERENCE	-1	1	0	0	0	0	5	-5	0
STANDARD DEVIATION	0.79	0.65	0.60	0.14	1.18	1.18	2.50	2.50	

88LE&SD#

Table VIII A-10
San Francisco Unified School District

EQUIPMENT AND SUPPLIES: CONTRACTS OVER $21,000
FISCAL YEAR 87-88
Total Number of Contract Dollars = $2,310,427

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	1.42%	0.00%	0.00%	1.42%	98.58%	48.03%	51.97%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-1.75%	0.24%	-1.02%	-0.06%	-2.59%	2.59%	25.76%	-25.76%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.49	0.08	-0.37	-0.09	-0.48	0.48	2.27	-2.27	
DISPARITY INDEX	0.00%	120.64%	0.00%	0.00%	35.44%	102.70%	215.66%	66.86%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$32,841	$0	$0	$32,841	$2,277,586	$1,109,764	$1,200,663	$2,310,427
EXPECTED CONTRACT DOLLARS	$40,513	$27,222	$23,619	$1,308	$92,662	$2,217,765	$514,589	$1,795,838	$2,310,427
DIFFERENCE	($40,513)	$5,620	($23,619)	($1,308)	($59,820)	$59,820	$595,175	($595,175)	$0
STANDARD DEVIATION	82,779	68,053	63,440	15,002	123,745	123,745	262,412	262,412	

Square root of sum of squared contract amounts = $630,683

88LE&SD$

Table VIII-A-11
San Francisco Unified School District

EQUIPMENT & SUPPLIES. CONTRACTS OVER $21,000
FISCAL YEAR 88-89
Total Number of Contracts = 50

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	8.00%	0.00%	0.00%	8.00%	92.00%	26.00%	74.00%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-1.75%	6.82%	-1.02%	-0.06%	3.99%	-3.99%	3.73%	-3.73%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.94	4.47	-0.72	-0.17	1.44	-1.44	0.63	-0.63	
DISPARITY INDEX	0.00%	678.99%	0.00%	0.00%	199.47%	95.84%	116.74%	95.20%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	4	0	0	4	46	13	37	50
EXPECTED NUMBER OF CONTRACTS	1	1	1	0	2	48	11	39	50
DIFFERENCE	-1	3	-1	0	2	-2	2	-2	0
STANDARD DEVIATION	0.93	0.76	0.71	0.17	1.39	1.39	2.94	2.94	

BOLE&SON

Table VIII A 12
San Francisco Unified School District

EQUIPMENT AND SUPPLIES: CONTRACTS OVER $21,000
FISCAL YEAR 88-89
Total Number of Contract Dollars = $2,856,036

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	4.72%	0.00%	0.00%	4.72%	95.28%	36.61%	63.39%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-1.75%	3.54%	-1.02%	-0.06%	0.70%	-0.70%	14.33%	14.33%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.63	1.56	-0.48	-0.11	0.17	-0.17	1.64	-1.64	
DISPARITY INDEX	0.00%	400.23%	0.00%	0.00%	117.58%	99.27%	164.35%	81.56%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$134,677	$0	$0	$134,677	$2,721,359	$1,045,458	$1,810,578	$2,856,036
EXPECTED CONTRACT DOLLARS	$50,080	$33,650	$29,197	$1,617	$114,544	$2,741,492	$636,110	$2,219,927	$2,856,036
DIFFERENCE	($50,080)	$101,027	($29,197)	($1,617)	$20,134	($20,134)	$409,349	($409,349)	$0
STANDARD DEVIATION	78,968	64,920	60,520	14,311	118,048	118,048	250,331	250,331	

Square root of sum of squared contract amounts = $601,648

89LE&SD$

Table VIII A 13
San Francisco Unified School District

EQUIPMENT & SUPPLIES: CONTRACTS OVER $21,000
FISCAL YEAR 89-90
Total Number of Contracts = 38

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	23.68%	76.32%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-1.75%	-1.18%	-1.02%	-0.06%	-4.01%	4.01%	1.41%	-1.41%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.82	-0.67	-0.63	-0.15	-1.26	1.26	0.21	-0.21	
DISPARITY INDEX	0.00%	0.00%	0.00%	0.00%	0.00%	104.18%	106.34%	98.18%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	0	0	0	0	38	9	29	38
EXPECTED NUMBER OF CONTRACTS	1	0	0	0	2	36	8	30	38
DIFFERENCE	-1	0	0	0	-2	2	1	-1	0
STANDARD DEVIATION	0.81	0.67	0.62	0.15	1.21	1.21	2.56	2.56	

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Table VIII A-14
San Francisco Unified School District

EQUIPMENT AND SUPPLIES: CONTRACTS OVER $21,000
FISCAL YEAR 89-90
Total Number of Contract Dollars = $2,154,308

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	22.09%	77.91%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-1.75%	-1.18%	-1.02%	-0.06%	-4.01%	4.01%	-0.19%	0.19%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.50	-0.41	-0.38	-0.09	-0.77	0.77	-0.02	0.02	
DISPARITY INDEX	0.00%	0.00%	0.00%	0.00%	0.00%	104.18%	99.17%	100.24%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$0	$0	$0	$0	$2,154,308	$475,813	$1,678,495	$2,154,308
EXPECTED CONTRACT DOLLARS	$37,775	$25,382	$22,023	$1,220	$86,400	$2,067,908	$479,817	$1,674,491	$2,154,308
DIFFERENCE	($37,775)	($25,382)	($22,023)	($1,220)	($86,400)	$86,400	($4,004)	$4,004	$0
STANDARD DEVIATION	75,031	61,684	57,502	13,598	112,163	112,163	237,851	237,851	

Square root of sum of squared contract amounts = $571,653

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Table VIII-A-15
San Francisco Unified School District

UTILIZATION FOR EQUIPMENT & SUPPLIES CONTRACTS UNDER $21,000

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	51	125	33	22	231	3,898	1,138	2,991	4,129
% Contracts	1.24%	3.03%	0.80%	0.53%	5.59%	94.41%	27.56%	72.44%	100.00%
Contract Dollars	$68,168	$206,205	$34,327	$23,524	$332,225	$5,809,440	$1,661,720	$4,479,945	$6,141,665
% Dollars	1.11%	3.36%	0.56%	0.38%	5.41%	94.59%	27.06%	72.94%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	64	151	35	15	265	4,233	1,412	3,086	4,498
% Contracts	1.42%	3.36%	0.78%	0.33%	5.89%	94.11%	31.39%	68.61%	100.00%
Contract Dollars	$82,874	$238,199	$36,321	$20,856	$378,250	$6,880,065	$2,168,066	$5,090,249	$7,258,315
% Dollars	1.14%	3.28%	0.50%	0.29%	5.21%	94.79%	29.87%	70.13%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	77	115	28	9	229	3,273	1,056	2,446	3,502
% Contracts	2.20%	3.28%	0.80%	0.26%	6.54%	93.46%	30.15%	69.85%	100.00%
Contract Dollars	$128,836	$157,918	$35,206	$9,357	$331,316	$5,534,230	$1,718,218	$4,147,327	$5,865,546
% Dollars	2.20%	2.69%	0.60%	0.16%	5.65%	94.35%	29.29%	70.71%	100.00%

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Table VIII-A 16
San Francisco Unified School District

EQUIPMENT & SUPPLIES: CONTRACTS UNDER $21,000
FISCAL YEAR 87-88
Total Number of Contracts = 4129

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	1.24%	3.03%	0.80%	0.53%	5.59%	94.41%	27.56%	72.44%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-0.52%	1.85%	-0.22%	0.48%	1.58%	-1.58%	5.29%	-5.29%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.54	11.01	-1.42	12.86	5.19	-5.19	8.17	-8.17	
DISPARITY INDEX	70.44%	256.95%	78.18%	941.17%	139.50%	98.35%	123.75%	93.20%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	51	125	33	22	231	3,898	1,138	2,991	4,129
EXPECTED NUMBER OF CONTRACTS	72	49	42	2	166	3,963	920	3,209	4,129
DIFFERENCE	-21	76	-9	20	65	-65	218	-218	0
STANDARD DEVIATION	8.43	6.93	6.46	1.53	12.61	12.61	26.74	26.74	

88SE&SD#

Table VIII-A-17
San Francisco Unified School District

EQUIPMENT AND SUPPLIES: CONTRACTS UNDER $21,000
FISCAL YEAR 87-88
Total Number of Contract Dollars = $6,141,665

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	1.11%	3.36%	0.56%	0.38%	5.41%	94.59%	27.06%	72.94%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-0.64%	2.18%	-0.46%	0.33%	1.40%	-1.40%	4.78%	-4.78%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.72	7.06	-1.61	4.80	2.49	-2.49	4.02	-4.02	---
DISPARITY INDEX	63.30%	284.96%	54.67%	676.57%	134.88%	98.54%	121.48%	93.85%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$68,168	$206,205	$34,327	$23,524	$332,225	$5,809,440	$1,661,720	$4,479,945	$6,141,665
EXPECTED CONTRACT DOLLARS	$107,693	$72,362	$62,785	$3,477	$246,317	$5,895,348	$1,367,900	$4,773,765	$6,141,665
DIFFERENCE	($39,525)	$133,843	($28,458)	$20,047	$85,908	($85,908)	$293,820	($293,820)	$0
STANDARD DEVIATION	23,045	18,945	17,661	4,176	34,449	34,449	73,052	73,052	---

Square root of sum of squared contract amounts = $175,574

885E&SD$

Table VIII A-18
San Francisco Unified School District

EQUIPMENT & SUPPLIES: CONTRACTS UNDER $21,000
FISCAL YEAR 88-89
Total Number of Contracts = 4498

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	1.42%	3.36%	0.78%	0.33%	5.89%	94.11%	31.39%	68.61%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-0.33%	2.18%	-0.24%	0.28%	1.88%	-1.88%	9.12%	-9.12%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.69	13.54	-1.63	7.81	6.43	-6.43	14.70	-14.70	
DISPARITY INDEX	81.14%	284.93%	76.12%	589.06%	146.90%	98.04%	140.94%	88.27%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	64	151	35	15	265	4,233	1,412	3,086	4,498
EXPECTED NUMBER OF CONTRACTS	79	53	46	3	180	4,318	1,002	3,496	4,498
DIFFERENCE	-15	98	-11	12	85	-85	410	-410	0
STANDARD DEVIATION	8.80	7.24	6.75	1.60	13.16	13.16	27.90	27.90	

89SE&SD#

Table VIII-A-19
San Francisco Unified School District

EQUIPMENT AND SUPPLIES: CONTRACTS UNDER $21,000
FISCAL YEAR 88-89
Total Number of Contract Dollars = $7,258,315

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	1.14%	3.28%	0.50%	0.29%	5.21%	94.79%	29.87%	70.13%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	-0.61%	2.10%	-0.52%	0.23%	1.20%	-1.20%	7.60%	-7.60%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.74	7.27	-1.93	3.62	2.28	-2.28	6.81	-6.81	--
DISPARITY INDEX	65.11%	278.54%	48.95%	507.56%	129.94%	98.75%	134.11%	90.23%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$82,874	$238,199	$36,321	$20,856	$378,250	$6,880,065	$2,168,066	$5,090,249	$7,258,315
EXPECTED CONTRACT DOLLARS	$127,273	$85,518	$74,200	$4,109	$291,101	$6,967,214	$1,616,605	$5,641,709	$7,258,315
DIFFERENCE	($44,400)	$152,681	($37,879)	$16,747	$87,149	($87,149)	$551,461	($551,461)	$0
STANDARD DEVIATION	25,550	21,005	19,581	4,630	38,194	38,194	80,993	80,993	--

Square root of sum of squared contract amounts = $194,659

895E&SD$

Table VIII-A-20
San Francisco Unified School District

EQUIPMENT & SUPPLIES: CONTRACTS UNDER $21,000
FISCAL YEAR 89-90
Total Number of Contracts = 3502

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	2.20%	3.28%	0.80%	0.26%	6.54%	93.46%	30.15%	69.85%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	0.45%	2.11%	-0.22%	0.20%	2.53%	-2.53%	7.88%	-7.88%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	2.01	11.55	-1.31	4.99	7.63	-7.63	11.21	-11.21	
DISPARITY INDEX	125.39%	278.71%	78.21%	453.96%	163.05%	97.37%	135.39%	89.86%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	77	115	28	9	229	3,273	1,056	2,446	3,502
EXPECTED NUMBER OF CONTRACTS	61	41	36	2	140	3,362	780	2,722	3,502
DIFFERENCE	16	74	-8	7	89	-89	276	-276	0
STANDARD DEVIATION	7.77	6.39	5.95	1.41	11.61	11.61	24.62	24.62	

90512501

Table VIII-A-21
San Francisco Unified School District

EQUIPMENT AND SUPPLIES: CONTRACTS UNDER $21,000
FISCAL YEAR 89-90
Total Number of Contract Dollars = $5,865,546

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	2.20%	2.69%	0.60%	0.16%	5.65%	94.35%	29.29%	70.71%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.75%	1.18%	1.02%	0.06%	4.01%	95.99%	22.27%	77.73%	100.00%
% ACTUAL MINUS % EXPECTED	0.44%	1.51%	-0.42%	0.10%	1.64%	-1.64%	7.02%	-7.02%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	1.12	4.64	-1.39	1.43	2.76	-2.76	5.58	-5.58	---
DISPARITY INDEX	125.26%	228.51%	58.71%	281.78%	140.84%	98.29%	131.52%	90.97%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$128,836	$157,918	$35,206	$9,357	$331,316	$5,534,230	$1,718,218	$4,147,327	$5,865,546
EXPECTED CONTRACT DOLLARS	$102,851	$69,109	$59,962	$3,321	$235,243	$5,630,303	$1,306,401	$4,559,144	$5,865,546
DIFFERENCE	$25,984	$88,809	($24,756)	$6,036	$96,073	($96,073)	$411,817	($411,817)	$0
STANDARD DEVIATION	23,264	19,125	17,829	4,216	34,776	34,776	73,746	73,746	---

Square root of sum of squared contract amounts = $177,242

90SE&SD$

Table VIII A-22
San Francisco Unified School District

UTILIZATION FOR SERVICES CONTRACTS OVER $15,000

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	1	0	0	1	10	5	6	11
% Contracts	0.00%	9.09%	0.00%	0.00%	9.09%	90.91%	45.45%	54.55%	100.00%
Contract Dollars	$0	$20,049	$0	$0	$20,049	$1,333,042	$1,179,186	$173,905	$1,353,091
% Dollars	0.00%	1.48%	0.00%	0.00%	1.48%	98.52%	87.15%	12.85%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	1	0	0	1	13	4	10	14
% Contracts	0.00%	7.14%	0.00%	0.00%	7.14%	92.86%	28.57%	71.43%	100.00%
Contract Dollars	$0	$27,726	$0	$0	$27,726	$2,292,013	$1,398,969	$920,770	$2,319,739
% Dollars	0.00%	1.20%	0.00%	0.00%	1.20%	98.80%	60.31%	39.69%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	1	0	0	1	13	2	12	14
% Contracts	0.00%	7.14%	0.00%	0.00%	7.14%	92.86%	14.29%	85.71%	100.00%
Contract Dollars	$0	$16,692	$0	$0	$16,692	$3,488,660	$1,193,663	$2,311,689	$3,505,353
% Dollars	0.00%	0.48%	0.00%	0.00%	0.48%	99.52%	34.05%	65.95%	100.00%

Table VIII-A-23
San Francisco Unified School District

SERVICES: CONTRACTS OVER $15,000
FISCAL YEAR 87-88
Total Number of Contracts = 11

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	9.09%	0.00%	0.00%	9.09%	90.91%	45.45%	54.55%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	5.50%	-2.87%	-0.11%	-1.52%	1.52%	-19.62%	19.62%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.68	0.98	-0.57	-0.11	-0.16	0.16	-1.36	1.36	---
DISPARITY INDEX	0.00%	253.22%	0.00%	0.00%	85.67%	101.70%	69.85%	156.17%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	1	0	0	1	10	5	6	11
EXPECTED NUMBER OF CONTRACTS	0	0	0	0	1	10	7	4	11
DIFFERENCE	0	1	0	0	0	0	-2	2	0
STANDARD DEVIATION	0.65	0.62	0.55	0.11	1.02	1.02	1.58	1.58	-

88LSERD#

Table VIII-A-24
San Francisco Unified School District

SERVICES: CONTRACTS OVER $15,000
FISCAL YEAR 87-88
Total Number of Contract Dollars = $1,353,091

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	1.48%	0.00%	0.00%	1.48%	98.52%	87.15%	12.85%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	-2.11%	-2.87%	-0.11%	-9.13%	9.13%	22.08%	-22.08%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.30	-0.16	-0.25	-0.05	-0.43	0.43	0.67	-0.67	
DISPARITY INDEX	0.00%	41.27%	0.00%	0.00%	13.96%	110.21%	133.92%	36.80%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$20,049	$0	$0	$20,049	$1,333,042	$1,179,186	$173,905	$1,353,091
EXPECTED CONTRACT DOLLARS	$54,728	$48,578	$38,836	$1,441	$143,582	$1,209,509	$880,486	$472,605	$1,353,091
DIFFERENCE	($54,728)	($28,528)	($38,836)	($1,441)	($123,533)	$123,533	$298,700	($298,700)	$0
STANDARD DEVIATION	183,114	172,927	155,195	30,313	286,269	286,269	443,129	443,129	

Square root of sum of squared contract amounts = $929,494

88ESERD$

Table VIII-A-25
San Francisco Unified School District

SERVICES: CONTRACTS OVER $15,000
FISCAL YEAR 88-89
Total Number of Contracts = 14

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	7.14%	0.00%	0.00%	7.14%	92.86%	28.57%	71.43%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	3.55%	-2.87%	-0.11%	-3.47%	3.47%	-36.50%	36.50%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.77	0.71	-0.64	-0.12	-0.42	0.42	-2.86	2.86	--
DISPARITY INDEX	0.00%	198.96%	0.00%	0.00%	67.31%	103.88%	43.91%	204.50%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	1	0	0	1	13	4	10	14
EXPECTED NUMBER OF CONTRACTS	1	1	0	0	1	13	9	5	14
DIFFERENCE	-1	0	0	0	0	0	-5	5	0
STANDARD DEVIATION	0.74	0.70	0.62	0.12	1.15	1.15	1.78	1.78	

89LSERD#

Table VIII-A 26
San Francisco Unified School District

SERVICES: CONTRACTS OVER $15,000
FISCAL YEAR 88-89
Total Number of Contract Dollars = $2,319,739

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	1.20%	0.00%	0.00%	1.20%	98.80%	60.31%	39.69%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	-2.39%	-2.87%	-0.11%	-9.42%	9.42%	-4.76%	4.76%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.35	-0.22	-0.30	-0.06	-0.53	0.53	-0.17	0.17	
DISPARITY INDEX	0.00%	33.29%	0.00%	0.00%	11.26%	110.53%	92.68%	113.64%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$27,726	$0	$0	$27,726	$2,292,013	$1,398,969	$920,770	$2,319,739
EXPECTED CONTRACT DOLLARS	$93,825	$83,282	$66,581	$2,470	$246,157	$2,073,582	$1,509,505	$810,234	$2,319,739
DIFFERENCE	($93,825)	($55,555)	($66,581)	($2,470)	($218,431)	$218,431	($110,535)	$110,535	$0
STANDARD DEVIATION	265,296	250,537	224,847	43,917	414,748	414,748	642,007	642,007	

Square root of sum of squared contract amounts = $1,346,654

89LSERD$

Table VIII-A-27
San Francisco Unified School District

SERVICES: CONTRACTS OVER $15,000
FISCAL YEAR 89-90
Total Number of Contracts = 14

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	7.14%	0.00%	0.00%	7.14%	92.86%	14.29%	85.71%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	3.55%	-2.87%	-0.11%	-3.47%	3.47%	-50.79%	50.79%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.77	0.71	-0.64	-0.12	-0.42	0.42	-3.99	3.99	-
DISPARITY INDEX	0.00%	198.96%	0.00%	0.00%	67.31%	103.88%	21.95%	245.40%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	1	0	0	1	13	2	12	14
EXPECTED NUMBER OF CONTRACTS	1	1	0	0	1	13	9	5	14
DIFFERENCE	-1	0	0	0	0	0	-7	7	0
STANDARD DEVIATION	0.74	0.70	0.62	0.12	1.15	1.15	1.78	1.78	

90LSERD#

Table VIII-A-28
San Francisco Unified School District

SERVICES: CONTRACTS OVER $15,000
FISCAL YEAR 89-90
Total Number of Contract Dollars = $3,505,353

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	0.48%	0.00%	0.00%	0.48%	99.52%	34.05%	65.95%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	-3.11%	-2.87%	-0.11%	-10.14%	10.14%	-31.02%	31.02%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.35	-0.29	-0.30	-0.06	-0.57	0.57	-1.12	1.12	
DISPARITY INDEX	0.00%	13.26%	0.00%	0.00%	4.49%	111.34%	52.33%	188.81%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$16,692	$0	$0	$16,692	$3,488,660	$1,193,663	$2,311,689	$3,505,353
EXPECTED CONTRACT DOLLARS	$141,779	$125,847	$100,610	$3,732	$371,968	$3,133,385	$2,281,009	$1,224,343	$3,505,353
DIFFERENCE	($141,779)	($109,154)	($100,610)	($3,732)	($355,276)	$355,276	($1,087,346)	$1,087,346	$0
STANDARD DEVIATION	399,409	377,188	338,512	66,118	624,411	624,411	966,554	966,554	

Square root of sum of squared contract amounts = $2,027,415

90LSERD$

Table VIII-A-29
San Francisco Unified School District

UTILIZATION FOR SERVICES CONTRACTS UNDER $15,000

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	3	1	0	1	5	129	14	120	134
% Contracts	2.24%	0.75%	0.00%	0.75%	3.73%	96.27%	10.45%	89.55%	100.00%
Contract Dollars	$2,766	$10,884	$0	$2,400	$16,050	$176,016	$33,279	$158,786	$192,065
% Dollars	1.44%	5.67%	0.00%	1.25%	8.36%	91.64%	17.33%	82.67%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	1	1	1	1	4	140	7	137	144
% Contracts	0.69%	0.69%	0.69%	0.69%	2.78%	97.22%	4.86%	95.14%	100.00%
Contract Dollars	$4,346	$2,948	$10,148	$2,400	$19,842	$251,176	$12,679	$258,339	$271,018
% Dollars	1.60%	1.09%	3.74%	0.89%	7.32%	92.68%	4.68%	95.32%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	2	0	1	3	120	3	120	123
% Contracts	0.00%	1.63%	0.00%	0.81%	2.44%	97.56%	2.44%	97.56%	100.00%
Contract Dollars	$0	$4,666	$0	$2,400	$7,066	$234,608	$10,556	$231,116	$241,674
% Dollars	0.00%	1.93%	0.00%	0.99%	2.92%	97.08%	4.37%	95.63%	100.00%

Table VIII-A-30
San Francisco Unified School District

SERVICES: CONTRACTS UNDER $15,000
FISCAL YEAR 87-88
Total Number of Contracts = 134

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	2.24%	0.75%	0.00%	0.75%	3.73%	96.27%	10.45%	89.55%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-1.81%	-2.84%	-2.87%	0.64%	-6.88%	6.88%	-54.62%	54.62%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.06	-1.77	-1.99	2.27	-2.59	2.59	-13.26	13.26	
DISPARITY INDEX	55.35%	20.79%	0.00%	700.93%	35.16%	107.70%	16.06%	256.39%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	3	1	0	1	5	129	14	120	134
EXPECTED NUMBER OF CONTRACTS	5	5	4	0	14	120	87	47	134
DIFFERENCE	-2	-4	-4	1	-9	9	-73	73	0
STANDARD DEVIATION	2.28	2.15	1.93	0.38	3.57	3.57	5.52	5.52	

88SSERD#

Table VIII-A-31
San Francisco Unified School District

SERVICES: CONTRACTS UNDER $15,000
FISCAL YEAR 87-88
Total Number of Contract Dollars = $192,065

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	1.44%	5.67%	0.00%	1.25%	8.36%	91.64%	17.33%	82.67%	100.00
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-2.60%	2.08%	-2.87%	1.14%	-2.26%	2.26%	-47.75%	47.75%	0.00
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.99	0.84	-1.29	2.64	-0.55	0.55	-7.53	7.53	-
DISPARITY INDEX	35.60%	157.84%	0.00%	1173.66%	78.75%	102.52%	26.63%	236.70%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$2,766	$10,884	$0	$2,400	$16,050	$176,016	$33,279	$158,786	$192,065
EXPECTED CONTRACT DOLLARS	$7,768	$6,895	$5,513	$204	$20,381	$171,684	$124,981	$67,084	$192,065
DIFFERENCE	($5,003)	$3,988	($5,513)	$2,196	($4,331)	$4,331	($91,702)	$91,702	$0
STANDARD DEVIATION	5,032	4,752	4,265	833	7,867	7,867	12,177	12,177	-

Square root of sum of squared contract amounts = $25,542

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Table VIII-A-32
San Francisco Unified School District

SERVICES: CONTRACTS UNDER $15,000
FISCAL YEAR 88-89
Total Number of Contracts = 144

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	Total
PERCENT ACTUAL CONTRACTS	0.69%	0.69%	0.69%	0.69%	2.78%	97.22%	4.86%	95.14%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-3.35%	-2.90%	-2.18%	0.59%	-7.83%	7.83%	-60.21%	60.21%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.04	-1.87	-1.56	2.16	-3.05	3.05	-15.16	15.16	
DISPARITY INDEX	17.17%	19.34%	24.20%	652.25%	26.18%	108.76%	7.47%	272.39%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	1	1	1	1	4	140	7	137	141
EXPECTED NUMBER OF CONTRACTS	6	5	4	0	15	129	94	50	141
DIFFERENCE	-5	-4	-3	1	-11	11	-87	87	0
STANDARD DEVIATION	2.36	2.23	2.00	0.39	3.70	3.70	5.72	5.72	

B95SERD#

Table VIII-A-33
San Francisco Unified School District

SERVICES: CONTRACTS UNDER $15,000
FISCAL YEAR 88-89
Total Number of Contract Dollars = $271,018

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	1.60%	1.09%	3.74%	0.89%	7.32%	92.68%	4.68%	95.32%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-2.44%	-2.50%	0.87%	0.78%	-3.29%	3.29%	-60.39%	60.39%	0.00
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.91	-0.99	0.39	1.76	-0.79	0.79	-9.34	9.34	
DISPARITY INDEX	39.65%	30.29%	130.46%	831.75%	69.00%	103.68%	7.19%	272.91%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$4,346	$2,948	$10,148	$2,400	$19,842	$251,176	$12,679	$258,339	$271,018
EXPECTED CONTRACT DOLLARS	$10,962	$9,730	$7,779	$289	$28,759	$242,259	$176,358	$94,661	$271,018
DIFFERENCE	($6,615)	($6,782)	$2,370	$2,111	($8,917)	$8,917	($163,678)	$163,678	$0
STANDARD DEVIATION	7,245	6,842	6,140	1,199	11,327	11,327	17,533	17,533	

Square root of sum of squared contract amounts = $36,776

89SSERD$

Table VIII-A-34
San Francisco Unified School District

SERVICES: CONTRACTS UNDER $15,000
FISCAL YEAR 89-90
Total Number of Contracts = 123

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	1.63%	0.00%	0.81%	2.44%	97.56%	2.44%	97.56%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	-1.96%	-2.87%	0.71%	-8.17%	8.17%	-62.63%	62.63%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-2.28	-1.17	-1.91	2.40	-2.94	2.94	-14.57	14.57	---
DISPARITY INDEX	0.00%	45.29%	0.00%	763.61%	22.98%	109.14%	3.75%	279.32%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	2	0	1	3	120	3	120	123
EXPECTED NUMBER OF CONTRACTS	5	4	4	0	13	110	80	43	123
DIFFERENCE	-5	-2	-4	1	-10	10	-77	77	0
STANDARD DEVIATION	2.18	2.06	1.85	0.36	3.42	3.42	5.29	5.29	

90SSERD#

Table VIII-A-35
San Francisco Unified School District

SERVICES: CONTRACTS UNDER $15,000
FISCAL YEAR 89-90
Total Number of Contract Dollars = $241,674

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	1.93%	0.00%	0.99%	2.92%	97.08%	4.37%	95.63%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	4.04%	3.59%	2.87%	0.11%	10.61%	89.39%	65.07%	34.93%	100.00%
% ACTUAL MINUS % EXPECTED	-4.04%	-1.66%	-2.87%	0.89%	-7.69%	7.69%	-60.70%	60.70%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-1.60	-0.69	-1.34	2.11	-1.94	1.94	-9.89	9.89	
DISPARITY INDEX	0.00%	53.77%	0.00%	932.74%	27.55%	108.60%	6.71%	273.80%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$4,666	$0	$2,400	$7,066	$234,608	$10,558	$231,116	$241,674
EXPECTED CONTRACT DOLLARS	$9,775	$8,676	$6,936	$257	$25,645	$216,029	$157,263	$84,412	$241,674
DIFFERENCE	($9,775)	($4,011)	($6,936)	$2,143	($18,579)	$18,579	($146,704)	$146,704	$0
STANDARD DEVIATION	6,128	5,787	5,194	1,014	9,580	9,580	14,830	14,830	

Square root of sum of squared contract amounts = $31,107

90SSER0$

Table VIII-A-36
San Francisco Unified School District

UTILIZATION FOR FOOD SERVICES CONTRACTS OVER $21,000

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	3	1	0	0	4	14	1	17	18
% Contracts	16.67%	5.56%	0.00%	0.00%	22.22%	77.78%	5.56%	94.44%	100.00%
Contract Dollars	$112,064	$65,000	$0	$0	$177,064	$684,711	$118,693	$743,081	$861,775
% Dollars	13.00%	7.54%	0.00%	0.00%	20.55%	79.45%	13.77%	86.23%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	1	0	0	1	22	2	21	23
% Contracts	0.00%	4.35%	0.00%	0.00%	4.35%	95.65%	8.70%	91.30%	100.00%
Contract Dollars	$0	$65,000	$0	$0	$65,000	$968,348	$49,643	$983,705	$1,033,348
% Dollars	0.00%	6.29%	0.00%	0.00%	6.29%	93.71%	4.80%	95.20%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	0	1	0	0	1	23	0	24	24
% Contracts	0.00%	4.17%	0.00%	0.00%	4.17%	95.83%	0.00%	100.00%	100.00%
Contract Dollars	$0	$65,000	$0	$0	$65,000	$1,031,040	$0	$1,096,040	$1,096,040
% Dollars	0.00%	5.93%	0.00%	0.00%	5.93%	94.07%	0.00%	100.00%	100.00%

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Table VIII-A-37
San Francisco Unified School District

FOOD SERVICES: CONTRACTS OVER $21,000
FISCAL YEAR 87-88
Total Number of Contracts = 18

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	16.67%	5.56%	0.00%	0.00%	22.22%	77.78%	5.56%	94.44%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	14.93%	0.68%	-5.49%	-0.09%	10.02%	-10.02%	-42.68%	42.68%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	4.85	0.13	-1.02	-0.13	1.30	-1.30	-3.62	3.62	--
DISPARITY INDEX	959.91%	113.84%	0.00%	0.00%	182.14%	88.59%	11.52%	182.47%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	3	1	0	0	4	14	1	17	18
EXPECTED NUMBER OF CONTRACTS	0	1	1	0	2	16	9	9	18
DIFFERENCE	3	0	-1	0	2	-2	-8	8	0
STANDARD DEVIATION	0.55	0.91	0.97	0.13	1.39	1.39	2.12	2.12	

88EFSD#

Table VIII-A-38
San Francisco Unified School District

FOOD SERVICES: CONTRACTS OVER $21,000
FISCAL YEAR 87-88
Total Number of Contract Dollars = $861,775

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	13.00%	7.54%	0.00%	0.00%	20.55%	79.45%	13.77%	86.23%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	11.27%	2.66%	-5.49%	-0.09%	8.35%	-8.35%	-34.47%	34.47%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	3.08	0.44	-0.86	-0.11	0.91	-0.91	-2.46	2.46	
DISPARITY INDEX	748.95%	154.55%	0.00%	0.00%	168.40%	90.49%	28.55%	166.59%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$112,064	$65,000	$0	$0	$177,064	$684,711	$118,693	$743,081	$861,775
EXPECTED CONTRACT DOLLARS	$14,963	$42,058	$47,315	$809	$105,144	$756,631	$415,722	$446,052	$861,775
DIFFERENCE	$97,101	$22,942	($47,315)	($809)	$71,920	($71,920)	($297,029)	$297,029	$0
STANDARD DEVIATION	31,501	51,961	54,936	7,385	78,933	78,933	120,508	120,508	

Square root of sum of squared contract amounts = $241,166

88IFSDS

Table VIII A-39
San Francisco Unified School District

FOOD SERVICES: CONTRACTS OVER $21,000
FISCAL YEAR 88-89
Total Number of Contracts = 23

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	4.35%	0.00%	0.00%	4.35%	95.65%	8.70%	91.30%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	-1.74%	-0.53%	-5.49%	-0.09%	-7.85%	7.85%	-39.54%	39.54%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.64	-0.12	-1.16	-0.15	-1.15	1.15	-3.80	3.80	
DISPARITY INDEX	0.00%	89.09%	0.00%	0.00%	35.64%	108.94%	18.03%	176.40%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	1	0	0	1	22	2	21	23
EXPECTED NUMBER OF CONTRACTS	0	1	1	0	3	20	11	12	23
DIFFERENCE	0	0	-1	0	-2	2	-9	9	0
STANDARD DEVIATION	0.63	1.03	1.09	0.15	1.57	1.57	2.40	2.40	

89LFSD#

Table VIII-A-40
San Francisco Unified School District

FOOD SERVICES: CONTRACTS OVER $21,000
FISCAL YEAR 88-89
Total Number of Contract Dollars = $1,033,348

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	6.29%	0.00%	0.00%	6.29%	93.71%	4.80%	95.20%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	-1.74%	1.41%	-5.49%	-0.09%	-5.91%	5.91%	-43.44%	43.44%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.57	0.28	-1.03	-0.13	-0.77	0.77	-3.71	3.71	--
DISPARITY INDEX	0.00%	128.89%	0.00%	0.00%	51.56%	106.73%	9.96%	183.92%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$65,000	$0	$0	$65,000	$968,348	$49,643	$983,705	$1,033,348
EXPECTED CONTRACT DOLLARS	$17,942	$50,431	$56,735	$970	$126,077	$907,271	$498,490	$534,858	$1,033,348
DIFFERENCE	($17,942)	$14,569	($56,735)	($970)	($61,077)	$61,077	($448,847)	$448,847	$0
STANDARD DEVIATION	31,619	52,156	55,142	7,412	79,229	79,229	120,961	120,961	

Square root of sum of squared contract amounts = $242,071

89EFSD$

Table VIII-A-41
San Francisco Unified School District

FOOD SERVICES: CONTRACTS OVER $21,000
FISCAL YEAR 89-90
Total Number of Contracts = 24

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	0.00%	4.17%	0.00%	0.00%	4.17%	95.83%	0.00%	100.00%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	-1.74%	-0.71%	-5.49%	-0.09%	-8.03%	8.03%	-48.24%	48.24%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.65	-0.16	-1.18	-0.15	-1.20	1.20	-4.73	4.73	--
DISPARITY INDEX	0.00%	85.38%	0.00%	0.00%	34.15%	109.15%	0.00%	193.20%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	0	1	0	0	1	23	0	24	24
EXPECTED NUMBER OF CONTRACTS	0	1	1	0	3	21	12	12	24
DIFFERENCE	0	0	-1	0	-2	2	-12	12	0
STANDARD DEVIATION	0.64	1.06	1.12	0.15	1.60	1.60	2.45	2.45	

90LFSD#

Table VIII-A-42
San Francisco Unified School District

FOOD SERVICES: CONTRACTS OVER $21,000
FISCAL YEAR 89-90
Total Number of Contract Dollars = $1,096,040

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.00%	5.93%	0.00%	0.00%	5.93%	94.07%	0.00%	100.00%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	-1.74%	1.05%	-5.49%	-0.09%	-6.27%	6.27%	48.24%	48.24%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.58	0.21	-1.05	-0.13	-0.84	0.84	-4.21	4.21	
DISPARITY INDEX	0.00%	121.52%	0.00%	0.00%	48.61%	107.14%	0.00%	193.20%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$0	$65,000	$0	$0	$65,000	$1,031,040	$0	$1,096,040	$1,096,040
EXPECTED CONTRACT DOLLARS	$19,030	$53,490	$60,177	$1,029	$133,726	$962,314	$528,733	$567,307	$1,096,040
DIFFERENCE	($19,030)	$11,510	($60,177)	($1,029)	($68,726)	$68,726	($528,733)	$528,733	$0
STANDARD DEVIATION	32,812	54,123	57,222	7,692	82,217	82,217	125,523	125,523	

Square root of sum of squared contract amounts = $251,202

90LF50S

Table VIII-A-43
San Francisco Unified School District

UTILIZATION FOR FOOD SERVICES CONTRACTS UNDER $21,000

Fiscal 1987-88

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	7	0	0	0	7	37	7	37	44
% Contracts	15.91%	0.00%	0.00%	0.00%	15.91%	84.09%	15.91%	84.09%	100.00%
Contract Dollars	$46,162	$0	$0	$0	$46,162	$221,468	$18,826	$248,805	$267,630
% Dollars	17.25%	0.00%	0.00%	0.00%	17.25%	82.75%	7.03%	92.97%	100.00%

Fiscal 1988-89

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	1	0	0	0	1	40	5	36	41
% Contracts	2.44%	0.00%	0.00%	0.00%	2.44%	97.56%	12.20%	87.80%	100.00%
Contract Dollars	$520	$0	$0	$0	$520	$251,718	$31,251	$220,987	$252,238
% Dollars	0.21%	0.00%	0.00%	0.00%	0.21%	99.79%	12.39%	87.61%	100.00%

Fiscal 1989-90

Ethnic Group	Afr Amer	Asian	Hispanic	Nat Amer	Minority	Majority	Female	Male	Total
# Contracts	1	0	0	0	1	45	7	39	46
% Contracts	2.17%	0.00%	0.00%	0.00%	2.17%	97.83%	15.22%	84.78%	100.00%
Contract Dollars	$3,729	$0	$0	$0	$3,729	$300,356	$27,678	$276,407	$304,085
% Dollars	1.23%	0.00%	0.00%	0.00%	1.23%	98.77%	9.10%	90.90%	100.00%

Table VIII A-44
San Francisco Unified School District

FOOD SERVICES: CONTRACTS UNDER $21,000
FISCAL YEAR 87-88
Total Number of Contracts = 44

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	15.91%	0.00%	0.00%	0.00%	15.91%	84.09%	15.91%	84.09%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	14.17%	-4.88%	-5.49%	-0.09%	3.71%	-3.71%	-32.33%	32.33%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	7.20	-1.50	-1.60	-0.20	0.75	-0.75	-4.29	4.29	--
DISPARITY INDEX	916.28%	0.00%	0.00%	0.00%	130.39%	95.78%	32.98%	162.46%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	7	0	0	0	7	37	7	37	44
EXPECTED NUMBER OF CONTRACTS	1	2	2	0	5	39	21	23	44
DIFFERENCE	6	-2	-2	0	2	-2	-14	14	0
STANDARD DEVIATION	0.87	1.43	1.51	0.20	2.17	2.17	3.31	3.31	

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Table VIII A 45
San Francisco Unified School District

FOOD SERVICES: CONTRACTS UNDER $21,000
FISCAL YEAR 87-88
Total Number of Contract Dollars = $267,630

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	17.25%	0.00%	0.00%	0.00%	17.25%	82.75%	7.03%	92.97%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	15.51%	-4.88%	-5.49%	-0.09%	5.05%	-5.05%	-41.21%	41.21%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	6.31	-1.20	-1.28	-0.16	0.82	-0.82	-4.38	4.38	
DISPARITY INDEX	993.42%	0.00%	0.00%	0.00%	141.37%	94.25%	14.58%	179.61%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$46,162	$0	$0	$0	$46,162	$221,468	$18,826	$248,805	$267,630
EXPECTED CONTRACT DOLLARS	$4,647	$13,061	$14,694	$251	$32,653	$234,977	$129,105	$138,525	$267,630
DIFFERENCE	$41,515	($13,061)	($14,694)	($251)	$13,509	($13,509)	($110,280)	$110,280	$0
STANDARD DEVIATION	6,580	10,853	11,475	1,542	16,487	16,487	25,171	25,171	

Square root of sum of squared contract amounts = $50,373

B05F50$

Table VIII-A-46
San Francisco Unified School District

FOOD SERVICES: CONTRACTS UNDER $21,000
FISCAL YEAR 88-89
Total Number of Contracts = 41

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	2.44%	0.00%	0.00%	0.00%	2.44%	97.56%	12.20%	87.80%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	0.70%	-4.88%	-5.49%	-0.09%	-9.76%	9.76%	-36.05%	36.05%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	0.34	-1.45	-1.54	-0.20	-1.91	1.91	-4.62	4.62	
DISPARITY INDEX	140.47%	0.00%	0.00%	0.00%	19.99%	111.12%	25.28%	169.64%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	1	0	0	0	1	40	5	36	41
EXPECTED NUMBER OF CONTRACTS	1	2	2	0	5	36	20	21	41
DIFFERENCE	0	-2	-2	0	-4	4	-15	15	0
STANDARD DEVIATION	0.84	1.38	1.46	0.20	2.10	2.10	3.20	3.20	

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Table VIII A 47
San Francisco Unified School District

FOOD SERVICES: CONTRACTS UNDER $21,000
FISCAL YEAR 88-89
Total Number of Contract Dollars = $252,238

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACT DOLLARS	0.21%	0.00%	0.00%	0.00%	0.21%	99.79%	12.39%	87.61%	100.00%
PERCENT EXPECTED CONTRACT DOLLARS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	-1.53%	-4.88%	-5.49%	-0.09%	-11.99%	11.99%	-35.85%	35.85%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	-0.59	-1.13	-1.21	-0.15	-1.83	1.83	-3.59	3.59	-
DISPARITY INDEX	11.87%	0.00%	0.00%	0.00%	1.69%	113.66%	25.68%	169.26%	100.00%

TECHNICAL ADDENDUM

TOTAL CONTRACT DOLLARS	$520	$0	$0	$0	$520	$251,718	$31,251	$220,987	$252,238
EXPECTED CONTRACT DOLLARS	$4,380	$12,310	$13,849	$237	$30,775	$221,463	$121,680	$130,558	$252,238
DIFFERENCE	($3,860)	($12,310)	($13,849)	($237)	($30,255)	$30,255	($90,429)	$90,429	$0
STANDARD DEVIATION	6,587	10,865	11,488	1,544	16,505	16,505	25,199	25,199	

Square root of sum of squared contract amounts = $50,430

8851SD$

Table VIII A 40
San Francisco Unified School District

FOOD SERVICES: CONTRACTS UNDER $21,000
FISCAL YEAR 89-90
Total Number of Contracts = 46

	AFRICAN AM	ASIAN	HISPANIC	NAT AM	MINORITY	MAJORITY	FEMALE	MALE	TOTAL
PERCENT ACTUAL CONTRACTS	2.17%	0.00%	0.00%	0.00%	2.17%	97.83%	15.22%	84.78%	100.00%
PERCENT EXPECTED CONTRACTS (PERCENT AVAILABILITY)	1.74%	4.88%	5.49%	0.09%	12.20%	87.80%	48.24%	51.76%	100.00%
% ACTUAL MINUS % EXPECTED	0.44%	-4.88%	-5.49%	-0.09%	-10.03%	10.03%	-33.02%	33.02%	0.00%
STATISTICAL SIGNIFICANCE INDEX (SSI)	0.23	-1.54	-1.63	-0.21	-2.08	2.08	-4.48	4.48	
DISPARITY INDEX	125.21%	0.00%	0.00%	0.00%	17.82%	111.42%	31.55%	163.80%	100.00%

TECHNICAL ADDENDUM

TOTAL NUMBER OF CONTRACTS	1	0	0	0	1	45	7	39	46
EXPECTED NUMBER OF CONTRACTS	1	2	3	0	6	40	22	24	46
DIFFERENCE	0	-2	-3	0	-5	5	-15	15	0
STANDARD DEVIATION	0.89	1.46	1.54	0.21	2.22	2.22	3.39	3.39	

III. CONTRACTING POLICIES AND PRACTICES

The contracting process followed by SFUSD is formulated in part by state and federal laws, as well as policies adopted by the San Francisco Board of Education.[1] Some of these policies apply generally to all trade categories; other policies apply only to contracting within specific trades. In addition to the official School District policies, SFUSD staff enforce contracting practices within their divisions that are often more strict than the requirements imposed by the official policies.

Any contract that exceeds $8,000 in value must appear as an agenda item for a meeting of the San Francisco Board of Education. This allows the members of the School Board to keep abreast of the expenditures made under their budget and to monitor the selection process used to determine the winning contractors, vendors, or consultants.

In 1988, the Board of Education adopted an Affirmative Action Plan, which included a provision covering Business Contracts for Construction and Purchasing. The plan included a goal for the Purchasing Department to increase Purchasing dollars awarded to minority vendors by 10 percent (from 8 percent of total Purchasing dollars to 8.8 percent of the total) by fiscal year 1989. No explicit numeric goals were set for construction contracts because the School District had been enjoined from implementing their MBE/WBE preference contracting program in 1979 as a result of a lawsuit brought by the Associated General Contractors.[2] Rather, the goal set for construction contracting was to investigate the possibilities of establishing a contracting policy that would encourage participation by women and ethnic minority contractors and that also could

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[1] Material presented in this chapter is based on interviews with SFUSD personnel and records and documents maintained by the School District, as well as a review of California state contract law.

[2] Refer to Chapter II, "Legal Context" (p. 14), of this report.

withstand potential court challenges. No records were found pertaining to the results of that investigation.

CONSTRUCTION CONTRACTS

SFUSD awards construction contracts according to a two-tiered system of "formal" and "informal" procurement procedures. Under the current ordinances, projects over $15,000 are bid through formal procedures, and those under $15,000 are bid through informal procedures. The primary differences in these two processes involve the extent of effort used by the School District in soliciting bids and the level of administrative review that bids receive.

School District staff report that large construction projects are often broken into smaller components with the intent of maintaining closer control of the projects. As a consequence, many of the School District's projects are open to smaller contractors who might not be able to meet bond requirements on larger projects. Since many of the minority and women contractors are small businesses, the practice of parcelling the work into smaller packages might also help to encourage participation by minority and women construction contractors.[3]

All contractors who win construction contracts with the School District must agree to pay prevailing wage rates to all employees. In addition, winning contractors must abide by the requirements of the Apprenticeship Program established by the California Labor Code.

Formal Procurement Practices

Construction projects valued in excess of $15,000 are formally bid; that is, they are publicly advertised in a newspaper of general circulation, and written bids are taken for each project. Public announcements of bid opportunities are placed in a general circulation newspaper at least once a week for two consecutive weeks. The formal bid process includes a pre-bid conference,

[3] The statistical results of disparity in construction contracting, presented in Chapter VI, do not corroborate this expectation. There are more occurrences of statistically significant disparities for construction contracts under $15,000 than for contracts over $15,000.

during which SFUSD architects and engineers are available to answer questions from prospective bidders. Sealed bids are received by SFUSD, followed by a public opening and reading of bids.

Qualified bidders are those with previous relevant experience and familiarity with School District construction projects. Firms that have the requisite level of experience and skill are then considered for projects according to price, with recommendation going to the lowest responsible bidder.

Before a project is awarded to the recommended contractor, legal requirements are verified, such as having the appropriate California contractor license and required insurance affidavits on file with SFUSD. For projects in excess of $25,000, the recommended contractor must have a performance bond and a payment bond on file with SFUSD. Each of these bonds must be at least as great as the size of the contract. In addition, the selected contractor must have certificates of insurance on file for public liability, worker's compensation, and automobile liability insurance.

The contracts are bid, screened, and approved by the Department Director of Facility Planning before they are presented to the School Board. In addition, the City Attorney's office reviews and approves all construction contracts over $15,000. The City Attorney's office also becomes involved whenever there are bid disputes.

The Board of Education holds the ultimate power within the School District for finalizing contracting awards in excess of $8,000. The Board usually awards the contract to the lowest bidder. In a few cases the School Board has rejected an award -- for example, in a case in which a tremendous discrepancy exists between the lowest bid amount and all other bids, suggesting that the lowest bid may be unrealistic.

Informal Procurement Practices

Construction contracts under $15,000 do not require a formal bidding process. Advertisements inviting contractors in particular licensed categories

to submit their qualifications for SFUSD contract work are published in a general circulation newspaper once a year.

Project managers initiate small construction projects by soliciting bids from a minimum of two, and usually three, contractors. Most informal bids are solicited by telephone; occasionally written bids are accepted. The project manager selects these bidders based on their reputation as reliable and qualified to perform the work required. However, the consulting team was not able to verify the objectivity of School District records with regard to the reputation of particular contractors. Ultimately, award of the contract is granted to the lowest responsible bidder.

Once the project manager has selected a contractor for a construction project under $15,000, the appropriate California contractor's license is verified for the recommended contractor. The recommended contractor also must have required insurance affidavits on file with SFUSD. The Director of the Facilities Planning Department determines the award amount for the project and approves the contract. If the value of the project exceeds $8,000, the Director forwards the contract to the School Board for its approval and award of the contract.

PURCHASING CONTRACTS

As was true for construction contracts, most purchasing contracts are let through either a formal or an informal bid procedure. State law requires that service contracts in excess of $15,000 and materials contracts in excess of $21,000 be awarded through a formal bid process, which includes advertising the bid in a newspaper of general circulation. Vendors chosen for purchases above $2,000 but below the value requiring formal bids are selected through an informal process, similar to the procedures used for construction contracts. Ideally, informal bids would be received in writing. Occasionally, however, informal bids are obtained over the telephone. With only a few exceptions, purchases made through either the formal or informal bid procedures are awarded to the lowest responsible bidder.

There are no bonding requirements for small contracts let through the Purchasing Department. However, there are insurance requirements for any vendor who must enter school property in order to perform his or her service.

As mentioned above, the Affirmative Action Plan adopted by the Board of Education in 1988 set a goal of awarding over 8 percent of Purchasing Department contracting dollars to minority and women vendors. Staff of the Purchasing Department indicate that the goal has not yet been achieved, principally because the Department is required to award purchasing contracts to the lowest responsible bidder.

The Purchasing Department has extended outreach efforts to minority and women vendors. In the last five years, Purchasing has sponsored three seminars for minority and women vendors to inform the vendors about the contracting process required to win a Purchasing contract. They have also sponsored one vendor fair in an effort to reach minority and women vendors who had not previously done business with the School District. According to School District personnel, these outreach efforts have increased the number of minority and women vendors winning School District contracts for certain products and services, such as printing and computers. In other areas, however, no minority or women vendors have even been identified as potential bidders.

The Purchasing Department also maintains a directory of minority and women vendors. Vendors listed in the directory may be included among the vendors that are contacted whenever an informal bid is about to be awarded.

Staff from the Purchasing Department report that they have experienced no difference in services received from vendors based on ethnicity. On the other hand, the size of the vendor's business can make a difference because a larger firm often can exercise more influence over a manufacturer to deliver a product more quickly. To the extent that minority-owned businesses are smaller than majority-owned businesses in the same trade, the minority-owned businesses may suffer a disadvantage.

PROFESSIONAL SERVICES CONTRACTS

Professional services contracts fall into two major groups: construction-related and other professional services. Contracts for professional services do not require formal bids; however, often the larger contracts are publicly advertised and awarded through a formal Request for Proposals. In addition, the Board of Education must approve all contracts over $8,000.

Construction-related professional services are awarded on a point system, with the largest number of points being awarded for a firm's qualifications. Points are also awarded for participation of minority and women consultants either as prime contractors, joint venture partners, or subcontractors. Despite this incentive, however, there has never been a case in which minority participation was the deciding factor in awarding a contract for construction-related professional services.

School District staff maintain a file on consultants qualified to perform work on construction-related professional services contracts. This file is used to choose consultants from whom to solicit bids for projects that do not require public announcements. Although there are no formal goals for minority participation on these contracts, School District staff do make efforts to include minority and women consultants among the firms that are contacted for bids.

Many of the contracts for other professional services cover specialty services that are performed at individual schools. These include contracts for lectures, demonstrations, and performances by people with unique skills and backgrounds. Typically, these contracts involve relatively small amounts of money, and the school principal is responsible for oversight of the contracting process.

Professional services contracts that are awarded centrally by SFUSD include services rendered by auditors, attorneys, physicians, and other consultants. Large contracts for standardized services are generally bid formally; contracts

for more specialized services can be awarded as sole source contracts, with the approval of the Board of Education for awards in excess of $8,000.

MEETING WITH SFUSD CONTRACTING OFFICIALS

The consulting team met with SFUSD contracting staff to investigate the actual practices used to award and monitor work done under contract for the School District. The meeting revealed some potential difficulties that might be encountered by minority and women contractors, vendors, and consultants in attempting to work with the School District.

Internal communication and understanding of SFUSD contracting policies on the part of SFUSD staff seemed to be a major source of potential difficulties for outside contractors. For example, only the personnel from the Purchasing Department and Fiscal Services were aware of the Affirmative Action Plan adopted by the Board of Education in 1988. Contract officials from Facilities Planning and Construction knew nothing of the policy. Officials from Food Services were also ignorant of the 8.8 percent minority contracting goal for fiscal year 1988-89.

Strict adherence to state laws requiring that contracts be awarded to the lowest responsible bidder could subject SFUSD to claims of passive discrimination. SFUSD officials state that some contracts are awarded to larger firms because the size of the contractor's business enhances its ability to negotiate terms with manufacturers. To the extent that minority- and women-owned firms have been unable to attain comparable size due to discriminatory practices within their respective industries, SFUSD may be encouraging such discrimination through the lowest responsible bidder requirement.

Outreach efforts on the part of SFUSD contracting staff tend to be sporadic and informal. This leaves considerable discretion in the hands of individual staff members in soliciting informal bids. An assistant superintendent for the School District confirmed that there had been little or no opportunity to train SFUSD contracting officials in the use of their discretionary authority. Inconsistencies in the amount of effort exerted across departments, and among

individual personnel within the same department, can generate confusion for minority and women contractors, vendors, and consultants. In turn, the confusion can discourage bids from MBE/WBEs.

SFUSD officials attribute some of the difficulties encountered by minority and women contractors and vendors to their misperceptions about School District policies. The fact that the City of San Francisco has an active MBE/WBE contracting preference program in place, while the School District does not, has caused ill feelings on the part of some vendors because these vendors do not understand that the School District functions separately from the City. Although SFUSD personnel state that contractors are paid punctually, perceptions of inaccessibility and slow payment on the part of government agencies generally continue to discourage some minority and women contractors and vendors from bidding on SFUSD projects.

IV. NARRATIVE/HISTORICAL ANALYSIS

The purpose of this narrative/historical study is to investigate and describe prevailing business practices in the San Francisco Unified School District (SFUSD) with regard to minority- and women-owned business and to provide anecdotal information on discrimination practices. The aim of the study is to gather information from Minority and Women Business Enterprise owners (MBE/WBEs) about discrimination or unfair treatment encountered in bidding or contracting with SFUSD. This chapter is presented in three sections. The first section describes the methodological approach taken in conducting the study. The second reports the results of the qualitative study data on MBE/WBE experiences in bidding and contracting with SFUSD. Conclusions are presented in the third and final section.

METHODOLOGY

The narrative/historical data were gathered by means of a qualitative survey. Interviews were conducted with representatives of 57 woman- and minority-owned businesses who reported experiencing problems either contracting with or attempting to contract with SFUSD.

Those MBE/WBEs were identified through a lengthy systematic process. Lists of MBE/WBEs were gathered from the school district and other sources. The school district provided several kinds of mailing lists: lists of successful and unsuccessful bidders from Purchasing and Construction; lists of businesses represented at bidding seminars and procurement fairs; and informal lists of known MBE/WBEs. The lists were cross-checked with various MBE/WBE Directories to identify the women- and minority-owned firms. Representatives of various minority and women business and contractors' associations were contacted, along with advocate and support groups in the Bay Area to expand the lists of possible respondents. In addition, every person screened was asked about others who should be contacted.

It must be noted that because of the nature of the lists used to generate MBE/WBE names, the sample is biased toward the more successful firms. These are firms that are bidding for contracts, attending seminars, etc. The less successful and "discouraged" firms do not appear on bidders' lists or attend workshops. They have given up trying to contract with the school district or have gone out of business.

Approximately 1000 letters explaining the project and asking for cooperation were mailed. Attempts were made to telephone all of the MBE/WBEs to whom letters had been sent. Approximately 300 brief screening interviews were completed. Many of these firms had had no experience contracting with SFUSD. However, 57 respondents met the criterion of experiencing some problems and were willing to be interviewed at greater length. The interviews were conducted in person or on the telephone using an interview guide (see appendix for copy of the screening questionnaire, the interview guide and the demographic profile questionnaire). The interviews ranged in length from 10 minutes to an hour.

Since the main goal in conducting a narrative/historical study is to gather anecdotal information on the experience of discrimination, the most appropriate methodology is a qualitative survey of a purposive sample of MBE/WBEs. A non-structured interview allows the respondent to fully report his/her experience, and a purposive sample most efficiently identifies respondents with relevant experience.

The interview guide and the screening questionnaire (see Appendix) are geared toward discovering problems encountered in contracting with SFUSD, since that is the focus of the interview. This focus is reflected in the findings. No doubt, many MBE/WBEs have had positive experiences with SFUSD but those are outside the parameters of this study.

In most social research, interview respondents are promised that everything they say will remain confidential - their names will never be connected with what they say to the interviewer. However, in this kind of study, it is important to gather information that is specific and, in fact, ultimately attributable to

respondents rather than anonymous and general. The respondents who participated in this survey were informed of and understood this necessity.

FINDINGS

Profile of Respondents

Since the respondents to the qualitative survey were selected on the basis of experiencing problems with the SFUSD, and for their willingness to be interviewed, they do not represent a random sample of MBE/WBEs in the area. The demographics of those interviewed, however, do suggest that a varied group was contacted, covering a range of types of MBE/WBE ownership in the Bay Area. Following is a summary of the characteristics of the companies interviewed:

- Gender and Ethnicity of Ownership:
  - 7 Non-minority women-owned
  - 13 Minority women-owned
  - 37 Minority male-owned

- Minority Breakdown
  - 10 African American
  - 17 Hispanic
  - 22 Asian
  - 1 Native American

- Types of Business
  - 29 Construction Related
  - 11 Architecture/Engineering Firms
  - 6 Other Professional Services
  - 11 Equipment & Supplies

- Concentration of Revenue in 1989
  - 27 Most revenue from private sector
  - 3 5% or less revenue from private sector
  - 15 Most revenue from public sector

14 5% or less revenue from public sector

- Annual Gross Revenues 1989
  - 10 <100,000
  - 11 101 - 500,000
  - 5 501 - Million
  - 18 > Million

- Number of Employees
  - 14 5 or less
  - 20 6 - 20
  - 11 21 or more

- Date Company Established
  - 17 Before 1980
  - 21 1980 - 1987
  - 4 Since 1988

The gender and ethnicity proportions reflect perceived experience of discrimination, and willingness to be interviewed, rather than actual distribution in the area. Under Type of Business, the construction category has been expanded to include construction related firms involved in remodeling projects such as painting contractors, heating companies, etc.

On the whole, those interviewed represent fairly successful businesses. Almost a third grossed more than $1,000,000 in 1989; almost a fifth had 21 or more employees. Most were established firms, less than 10 percent were founded within the last two years. They seem, however, more successful in the private sector. Almost half earned most of their 1989 revenue in the private sector and only a few (3) received no revenue or very little revenue from the private sector.

The companies represented here are all actively involved in attempting to contract with the SFUSD. Over half have actually submitted bids for contracts